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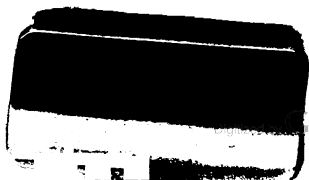
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BERGSON'S DOCTRINE OF INTUITION

The Donnellan Lectures for 1921

BY

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CONTENTS

CHAP.	PAGE
I. THE METHOD OF INTUITION	I
II. FREE-WILL	32
III. MIND AND BODY	62
IV. THEORY OF EVOLUTION	98

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YL96

PREFACE

THIS study in M. Bergson's philosophy is substantially the series of Donnellan Lectures delivered by the author in Trinity College, Dublin, in 1921. Since delivery the Lectures have been revised and considerably expanded.

My thanks are due to the Board of Trinity College, whose liberality has enabled me to publish them.

A. A. LUCE.

*Trinity College, Dublin,
March 1922.*

BOOKS CONSULTED AND REFERRED TO IN FOOTNOTES

H. BERGSON. *Les données immédiates de la conscience*: 19th edition. (Abbreviation T.F.)

Matière et Mémoire: 14th edition. (Abbreviation M.M.)

L'évolution créatrice: 11th edition. (Abbreviation E.C.)

L'énergie spirituelle: 3rd edition. (Abbreviation En. Sp.)

L'intuition philosophique (in *Revue de Métaphysique et de Morale*, Nov. 1911. (Abbreviation I.P.)

Letter to Höffding, appended to Höffding, *La philosophie de Bergson*: French translation by De Coussange.

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W. BROWN. *Psychology and Psychotherapy*.

ALEXANDER. *Space Time and Deity*.

DOCTRINE OF INTUITION

CHAPTER I

THE METHOD OF INTUITION

THE philosophy of M. Bergson has within the last thirty years aroused a world-wide interest. Its influence appears to be steadily growing both in Europe and America. It is the "live wire" in contemporary philosophy. Now philosophy is not propaganda. I hold no brief for Bergsonism; so I do not propose to defend it. I hold no brief for another system; so I shall not attack this one. As it appears to me not only un-Bergsonian, but unphilosophical, to belong to any "school" or to adopt any "system," my sole aim in these lectures is to offer a sympathetic presentation of the salient features of Bergson's thought.

The Bergsonian method is our subject to-day. Bergson contends that there is a special mode of thinking appropriate to speculative philosophy, and that to adopt it is the first business of the truth-seeker. The contention is not new. Many thinkers have prefaced their systems with a statement of

method. Sometimes their work has been all preface. They tax our patience, those metaphysicians who elaborate a method and never use it, who hunt for a starting-point and never start. Bergson is not one of their number. His methodology is neither tiresome nor barren. He claims that his method gives definite results and that it can be used to solve great problems of philosophy.¹ In subsequent lectures of this series we shall see the application of the method to three of these problems. There are other problems, such as religion and ethics, to which no doubt the same method could be applied. Bergson invites other thinkers to collaborate in the task.² He is modest as to his own achievements. He does not aim at giving to the world a *Summa Philosophiæ*. Indeed he has said that a philosopher should be content if he has treated with success one or two problems in a lifetime. When we have studied his treatment of the questions of Free-Will, of Mind and Body, and of Evolution, it will, I hope, be evident that the intuitive method is not a *cul-de-sac*, even if the hopes raised in sanguine minds of an intuition of the ultimate truth of things, commanding universal acceptance, be not in our day fulfilled.

Bergson outlines his method in short works entitled *Introduction à la Métaphysique* and *L'Intuition Philosophique*; he refers to it and illustrates

¹ E. C., Intr., p. vi.

² *Ibid.*, Intr., p. vii.

it also in many passages of his larger works. His main contention is this. The philosopher in pursuit of truth must substitute a mental procedure called intuition for that procedure called intelligence, which is used in "business of life" thought, in science and in most systems of philosophy. We shall examine at length the arguments upon which this thesis rests. Before doing so we must utter a word of caution. The Bergsonian method cannot be judged fairly apart from the Bergsonian doctrine. With Bergson the "what to think" determines the "how to think," and not *vice versa*. For ease of exposition we are taking the method of the doctrine before its content; but intuition as a way of thinking and intuition as a result of thinking are indissolubly connected. In the history of Bergson's own thought the concrete intuition came first, his conscious formulation of the method second. "A philosopher worthy of the name has never said but one thing,"¹ says Bergson. Bergson's "one thing" is his primary intuition of duration. "The representation of a duration, heterogeneous, qualitative, creative, is the point from which I started and to which I have constantly returned."² Evidently it is not that his method has led him to his conclusions, but his conclusions have led him to his method. He sees all things *sub specie durationis*. The human

¹ *I. P.*, p. 813.

² *Letter to Höfding*, p. 160.

mind for him is essentially memory. The organism *est chose qui dure*. Matter is a movement towards the instantaneous, i. e. towards loss of duration. These Bergsonian principles flow from the one primary representation. The philosopher felt duration: he could not do without the representation of it: yet he could not picture it or categorise it. So he had to try to intuit it. The inability of the conceptual mode of thinking to express duration is the starting-point of Bergsonism. The concept cannot get or tell that representation. In Bergson we have Heraclitus asserting his primary conviction and tracing to its source the error of Parmenides. When a local leader is called to administer an empire, he has to discard political shibboleths and "cut-and-dried" economic formulæ that were perhaps adequate for local administration, and his mind must take on a new pliancy and flexibility and width. Just so, Bergson argues, the stock-in-trade of intellect will serve our purpose only as long as we are dealing with a universe that is; a universe that becomes, a universe in the making, demands more than a re-adjustment of old faculties or an extension of old categories; it requires the growth of new powers of apprehension, "*quelque chose comme une nouvelle méthode de penser.*"¹ We shall examine more closely in another lecture the meaning of duration. I would emphasise here,

¹ *Letter to Höfding*, p. 160.

however, that this arresting claim to the discovery of a new method should not be isolated from the content of Bergson's teaching. For the method of intuition is complementary to the representation of duration. If duration means nothing to the thinker, intuition will seem to him unnecessary, and the debate about method hollow. But if he takes duration as the fundamental reality, he will perhaps agree with Bergson, that intuition is the only possible method for a philosophy of movement, of life and of memory.

Bergson, then, advocates intuition because he rejects intelligence. To arrive at the meaning of his term "intuition," we must first discuss the negative side of his method, namely, his critique of intelligence. It requires courage to impeach intelligence. It is a serious step for a responsible philosopher to take. He exposes himself to the charge of irrationalism; and reason we regard, rightly or wrongly, as the foundation of ordered society. So Bergson's arraignment of intelligence deserves close attention. The doctrine of intuition is only for those (may I use a paradox?) who intelligently reject intelligence; for those, that is, who understand just where and why intelligence fails the thinker. Of course objectors urge that Bergson cannot be right, because he is using intelligence to dethrone intelligence. The same objection would lie against Kant's Kritik of Reason. If valid, it

would estop all self-criticism. It is part of the mystery of our make-up, that we can both think and watch ourselves thinking. Bergson anticipated this objection and answered it in advance.¹ We might note that William James, an independent and virile thinker, tells us frankly that Bergson's influence led him to "renounce the intellectualistic method."² I quote that authority to show that there is no initial absurdity about Bergson's enterprise. After all, why must intellect be the only instrument of knowledge? The organs of sense are dual. One eye aids the other eye to see. May there not be a binocularity of inner vision?

• Bergson holds "intelligence" responsible for the comparative failure of speculative philosophy. *L'Évolution Créatrice* closes with a review of the chief systems of philosophy from the Greek period to the present day. That chapter is, in effect, an indictment of the intellectualist method on the ground of its unprogressive character. Satisfactory answers to questions raised two thousand years ago have not been found. The best brains have been brought to bear upon ultimate and momentous problems; but philosophy is not within sight of her goal. Bergson suggests as a reason that philosophy and science have been all of a pattern—

¹ E. C., Intr., pp. v and 210.

² James, Pl. Univ. Lecture VI.

intellectualist. The modern metaphysic of the concept and its scientific counterpart, the theory of Laws, simply reproduce the Greek tradition of static Ideas. The Greeks had confidence in nature, in the mind left to its own inclination, and in the power of language to express thought. "Plutôt que de donner tort, à l'attitude que prennent, devant le cours des choses, la pensée et le langage, ils aimèrent mieux donner tort au cours des choses."¹ Because philosophy has never broken away from these traditional principles of method, her highest speculation has issued in antinomies.² Bergson is anything but a pessimist. He is full of hope for the future; but he thinks that philosophy will get no nearer her objective without a radical alteration of tactics. Philosophers have been content with a war of positions; they have "dug in" in a labyrinth of concepts: they must now leave their trenches and come out into the open field of living experience. The method of intelligence has failed, and, Bergson says, must fail. If it is true that our primary and fundamental experience is "becoming" as opposed to "being," Bergson's argument as to method would seem to be well-founded.

But Bergson is not content with the indirect argument from absence of results. For a more convincing proof he takes us to the structure of intelligence and to its probable history. We have

¹ E. C., p. 339.

² *Ibid.*, p. 168.

a strong Kantian tradition here in Trinity College, and are familiar with the notion of a critique of the instrument as a preliminary to its use. So we naturally ask if Bergson is simply harrowing the ground which Kant ploughed. Accordingly, the essential difference between the two critiques must be underlined at the outset. The pure reason which Kant analysed is not a concrete fact of experience; ¹ it is an abstraction, an ideal, an ideal of Newtonian science; it is a reason which some of us might like to possess, but which no one, not even a Teuton savant, actually does possess. Kant appears to take reason as a finished product, a static entity with no history and no future. Darwin has made it difficult for us to adopt Kant's view-point. Bergson, as a thorough-going evolutionist, regards human reason, or intelligence, as he prefers to name it, as a true growth, a faculty that has grown, is growing and may grow. He plunges it boldly into the current of evolution. Intelligence is not for him an Athene from the head of Zeus, a superior faculty fully equipped from the beginning with twelve categories and two forms of intuition, a detached spectator of the drama of terrestrial life. On the contrary, it has played its part all along. It has shared and is sharing that evolution. It has a humble ancestry and poor relations. Only slowly and in face of opposition have its capacities

¹ Cf. *E. C.*, p. 386.

developed. Who is to say that its development has ceased?

To demonstrate the evolution of the human mind is no doubt impossible. But we have as much evidence for it as we have for the evolution of the human body. In both cases the evidence amounts to practical proof. We find regular development within individual experience; the stages of individual experience form a *résumé* of race experience; there is an embryology of mind, as there is an embryology of body; features of human mind appear in the wider field of animal creation. Man has no monopoly of intelligence. A mental mutation has no doubt occurred, which has carried the development of human intelligence to a stage far beyond the attainments of other species. Yet these others preserve traces of intelligence. Wherever life is found, behaviour is found; and behaviour, if not mind, is a movement towards mind. The common origin of all life involves a community of mind. It is no mere fancy that sees a solidarity between the mollusc's awareness, the cave-dweller's mental gropings and the trained thought of twentieth-century man.

Once the evolution of mind is granted, it is a short step to the activist theory of knowledge. Before we learned to think in terms of evolution, knowledge seemed to us a faculty superadded to our powers of action; we used to contrast knowledge

and action, regard them as independent things, as if an organism might act and not know, might know and not act. Bergson joins issue with that view. Intelligence, he maintains, develops *pari passu* with the organism: for the measure of intelligence is the measure of the organism's power of action.¹ An organism with a wide range of possible action *eo ipso* possesses a highly developed intelligence. Power of action is the calculus for determining high and low in the evolutionary scale.² In the family of vertebrates many structural and functional developments have facilitated the growth of intelligence. Their nervous system, their mobility, their apparatus for storing and spending energy, have extended their radius of activity, and in so doing have enabled deliberate action to take the place of automatic response to stimulus. Man's pre-eminence among the vertebrates is due mainly to his hand. His intellectual supremacy springs, Bergson thinks, from the invention of artificial instruments.³ Man can put his hand to anything. The flint implements of prehistoric man, no less than modern machines, are characteristic products of human intelligence; and these products of intelligence have reacted upon the structure and functioning of that faculty. Not *homo sapiens* but *homo faber* is our legend.⁴ "Fabrication" is

¹ E. C., p. 47.

² *Ibid.*, p. 149.

³ *Ibid.*, pp. 137 and 143 ff.

⁴ *Ibid.*, p. 151.

humanity's first business !¹ In other words, Adam should have been named Smith; for Smith is the proper name of mankind !

Thus Bergson puts action first and thought second. This principle explains in his view the failure of previous philosophy. Intelligence, as its genesis proves, is not designed for disinterested knowledge. Its destination is entirely practical. Speculation about origins and ultimates lies outside its competence. Its business is to enable the organism to act upon its environment. Intelligence is at home in matter and models itself upon matter, especially upon solid inert matter.² It seizes on the material aspect of all things that are. Consequently, when it tries to represent motion, it immobilises; life it devitalises. If faced with a speculative problem about life or spirit, it is puzzled and perplexed and always fails to reach a solution.³ That intelligence suits matter is no mere accident, Bergson thinks. In an interesting but admittedly speculative passage, he finds that the genesis of intelligence is the necessary counterpart of the genesis of matter.⁴ Both are interruptions of the upward current of cosmic becoming. Many who do not follow Bergson's metaphysical account of how intelligence comes to be related to matter will yet admit that this relation is a fact. If intelligence,

¹ E. C., p. 166.

² *Ibid.*, p. 166.

³ *Ibid.*, pp. 175, 179.

⁴ *Ibid.*, pp. 218-225.

that is to say, human thought following its natural inherited bent, is solely fitted for problems of action, then it is the wrong instrument for the metaphysician. A *novum organum* will be required for intuitive problems. In that sphere, says Bergson in effect, methods of intelligence are methods of barbarism.¹ Take a joiner's outfit to a dissection; use pincers for forceps and chisel for scalpel, but do not apply work-a-day intelligence to delicate problems of philosophy.

These conclusions are supported by a study of the structure of intelligence. By "structure" we mean the abiding forms under which man thinks the comparatively fleeting data of experience. The most useful of these forms we call categories. The categorical structure of intelligence has been the very citadel of intellectualist metaphysic. No one, of course, would deny that we use categories and must use them. We must know if a thing is one or many, what the cause and effect of an event are, before we can pretend to understand the thing or the event. Life is a mystery to us, just because we cannot say whether the living organism is one or many, nor subsume it under the ordinary category of causation. What then are the categories? Kant lists the twelve primary ones. The intellectualist regards them as phases of eternal reason, preceding experience and making it possible.

¹ E. C., p. 179.

Bergson regards them as products of evolution that have shared the contingencies of the evolutionary process. For him they are typical ways of thinking matter, human devices for fixing and making manageable the flux of things.¹ In them and by them we pigeon-hole the data of experience. Taken together they form a framework which holds the most obvious and the most ordinary part of the race experience. The framework is artificial and relative to the practical needs of humanity. Categories and concepts, having shared the evolution of the human race, enable man to move about in a material world and to manipulate material things; they are in no sense antecedent to experience nor are they universal and necessary conditions of all knowledge. They do not apply readily in the sphere of the organic, and in the sphere of the psychic they are inappropriate and often misleading.² We look at a dandelion and call it *one*. But when we try to eradicate this one weed from our garden path, we find it a hydra containing the possibilities of an unlimited number of similar hydras.

A study of intelligence functioning lends further support to his thesis. He examines the two chief mental processes, the two typical movements of the human mind, which have been most studied and are best recognised, deduction and induction. He finds that the idea of extension is at the back of

¹ *E. C.*, p. 174.

² *Ibid.*, pp. 175, 179.

both. It is noteworthy, he says, that deduction, which is usually regarded as a pure activity of the mind, should be ineffective just in that sphere in which we should expect it to give the surest results.¹ If deduction were a non-spatial activity, surely it would be of most use in psychology and ethics and the similar sciences. Yet in these mental sciences deduced consequences are least reliable. Notably in psychology deductions from principles have to be checked constantly by a reference to "good sense," which Bergson defines as "continuous experience of the real."² On the other hand, deduction rules in geometry, astronomy and physics. This consideration leads him to deny that deduction is an upgrade movement. He thinks it a mind-movement in the direction of matter. Deduction is at home in quantity. In that sphere its conclusions are rigid. In forming deductions we use subconsciously a space picture. We are naturally geometers, he says. There is a native geometry, anterior to the science. The very movement that draws a triangle generates its properties. Take a stick and draw the base of a triangle in the sand: begin the sides at equal angles with the base; and without completing them, without explicitly reasoning about them, we perceive the necessary equality of the completed sides. Deduction is the process of making explicit the implications of our native

¹ *E. C.*, pp. 230-232.

² *Ibid.*, p. 232.

intuition of three-dimensional space. Similarly, logic is a geometry of thought. I make a mental diagram of my middle term "man," and the mortality of Socrates is given in and with that diagram. The radical weakness of the syllogism consists in the fact that qualities are only symbolised, not represented by the quantitative diagram.

The inductive process also, Bergson holds, is based upon our intuition of space.¹ Induction is a conceptual phase of a geometric method. Superposition enables Euclid to establish the equality of two triangles. Just so inductive science superposes case upon case, shows that all the conditions coincide, and makes the inference that the effect given with cause A is also given with cause A'. The argument is cogent if, and only if, the terms of the induction are spatial or spatially represented. The causes and effects are required to be as definite as are points and lines. If causes and effects are not definite, the mental superposition is invalid. This is tantamount to the assertion that inductive inference only holds of quanta. Bergson in effect says so. He points out that induction fails us when we deal with historical events just because the constituent factors cannot be isolated. We should all like to know the *vera causa* of the recent war; for then we might be able to prevent future wars. But war is not homogeneous, like space and number;

¹ E. C., pp. 233-236.

it is a multiplicity of heterogeneous elements. Similarly with the supposed cause. Capitalism or the personal ambition of a monarch are indefinite causes. Strictly speaking, they do not recur. The capitalism of 1914 is not the capitalism of 1922. The one may be a contributory cause of war, the other may prevent war. From the fact that yesterday's egg boiled in three minutes I cannot infer that to-day's egg will boil in three minutes. I cannot superpose the two cases. For eggs, like capitalism and kings, have a history. Wherever you have the time factor, as with the organic and the psychic, you have duration; and where you have duration you cannot have recurrent causes or simple causes, and therefore you cannot have valid induction. Timeless space and timeless matter (both probably only ideal entities) are the only sphere in which induction operates accurately.

Thus we may study intelligence as a product of terrestrial evolution, we may study its categorical framework, we may watch it operating. From these three investigations Bergson derives cumulative evidence for his main contention. The genesis of intelligence, its *esse*, its processes, prove, so he thinks, that intelligence gives us a working knowledge of our material environment, but brings us no nearer a disinterested knowledge of the ultimate truth of duration.¹

¹ E. C., p. 33.

We come now to the positive side of Bergson's methodology. He rejects intelligence for the reasons given and with the qualifications stated. He puts in its place the method of intuition. The method suits the man. M. Bergson is that rarity, a thinker who can both write and speak, a thinker whose writings are literature and whose speech is oratory. As regards his writings I could quote as authority the late Provost Mahaffy, with whom some years ago I discussed the Bergsonian philosophy. Mahaffy was too good a Kantian to approve the substance of this new doctrine, but was unstinted in praise of its literary form. He spoke in the highest terms of the *charm* of Bergson's pen. M. Bergson is a finished orator too. Fluent in English, in French he is a Chrysostom. I have heard him hold an international Congress of philosophers for an hour spellbound by the magic of his words. Now, charm in writing and in speech, as in all the arts, is a fruit of intuition. It is a magnetism by which the artist who possesses inside knowledge conveys it to the world. Bergson's style embodies the method he teaches. He has aimed at reaching the heart of life's mystery by another road than argument, at intuiting its secret, at winning the sympathies of his readers and hearers in order to impart to them his vision.

Men of genius possess an uncanny insight. This insight we ordinary mortals like to regard as some-

thing *sui generis*, not merely as a high development of intelligence, touched with temperament. Have we any right to that view? Have we any ground for supposing the possibility of a second faculty of knowledge? We may recognise fully the limitations of human intelligence, and yet refuse to go any further on the Bergsonian road. We may say to ourselves that intelligence is not all we could wish it to be, but that it is all man has in that line and all he is likely to have; in which case it would be our wisdom to make the best of it and give up crying for the moon.

To prove the possibility of a non-intellectual knowledge Bergson takes us to the facts of life.¹ In the existence of instinct he finds a proof from fact. Instinct is a faculty of knowledge that does not use categories and that does not oppose subject to object. Instinct is often regarded as an obscure impulse to action, an impulse that is absorbed in the action and has no cognitive residuum. A study of human instinct might leave that impression. Instinct does not play a noticeable part in the conscious experience of the educated man. A study of the animal world, however, shows instinct to be knowledge as well as impulse. Bergson argues that instinct is to the animal world what intelligence is to man. It orientates them in their environment and guides their action.² The community life of an ants'

¹ *E. C.*, p. 149 ff.

² *Ibid.*, p. 180.

nest or of a beehive could not be what it is unless ants and bees possess knowledge of a remarkable character. It is true that their knowledge is not always exact and that their instinct sometimes makes mistakes. But generally speaking they know what to do without the teaching of experience. They have a knowledge of what other members of their community are doing and will do. The same holds throughout the whole insect world. It is particularly remarkable in Nature's devices to secure the continuance of the species. Many insects show a minute knowledge of the habits of other species, a knowledge of the future, a knowledge that anticipates happenings beyond their own lifetime.

Granted the existence of a distinct faculty of knowledge called instinct, what bearing has it on the problem before us? Ants and bees know in a way that to us seems marvellous. Does that fact enhance the hope of an extension of human faculties? It does, says Bergson, if we appreciate the positions of instinct and intelligence in the evolutionary scale.¹ We commonly regard instinct as a low stage of mentality which intelligence has outgrown. This is the Aristotelian tradition² which Darwinism modified but did not destroy. Aristotle taught the world to consider human reason as the crown and climax and purpose of all development.

¹ *E. C.*, p. 189.

² *Ibid.*, p. 146.

All roads lead to man. Bergson contends that we must abandon that anthropocentric view-point and see evolution as multilinear. Nature seems to him a "trial and error" process taking place along many lines. Along two lines, Bergson thinks, Nature's experiments have succeeded.¹ These are, first, the line of the higher vertebrates culminating in man; second, the line of the Arthropoda leading to the insect family known as Hymenoptera. It seems probable that man and the community insects have been the latest species to evolve on this planet, and that therefore we may take them to represent the achievement of Nature's proximate purposes. On this showing the two main purposes of terrestrial evolution are intelligence and instinct. These two faculties are the pride respectively of the two premier and latest born species.

Bergson then tries to show that instinct and intelligence are complementary faculties,² just as plant and animal are complementary forms of life. I can here only summarise the argument which occupies many pages of *L'Évolution Créatrice*.³ It is there maintained that instinct is life-regarding as intelligence is matter-regarding, that instinct yields an immediate knowledge of objects from within; that intelligence gives a knowledge, mediated by concepts, of the relations between objects and of

¹ E. C., pp. 145-146.

² *Ibid.*, p. 147.

³ *Ibid.*, p. 147 ff.

the use we can make of them; that the instinctive sign is adherent, the intelligent sign mobile.¹ Instinct possesses a divining sympathy² that would be beside the purposes of intelligence. Instinct has a narrow scope but a sure touch. Instinct won certainty but lost flexibility. So it is a stagnant faculty. Intelligence is progressive but superficial. Its progress is achieved by a surrender of an intimate knowledge of the internal constitution of things. The two faculties then are not random products of time. They have developed, Bergson thinks, from a common stock, which we may call "Conscience en général."³ They are differentiations of tendencies originally combined in the primitive impulse to live and know. Up to a point each has gained by specialised cultivation. The time has come to recombine them. This can be done, Bergson thinks, in man, who has achieved self-consciousness⁴ and knows himself to be an instinctive as well as an intelligent animal. The philosopher would, we might say, wed man's intelligence to woman's instinct. Instinct become self-conscious, reflective, disinterested, fused with intelligence is intuition,⁴ and such intuition, Bergson argues, is alone fitted to solve the grand problems of philosophy.

Intuition is an aristocratic faculty, and we have assigned to it a humble pedigree. An educated

¹ E. C., p. 172.

² *Ibid.*, p. 203.

³ *Ibid.*, p. 191.

⁴ *Ibid.*, p. 192.

man distrusts and despises instinct.¹ He feels that he has won his outlook by cultivating intelligence and repressing instinct. He cannot see that there is anything to be gained by the cult of this discredited relic of primeval days. He fears, too, that the cult of instinct might relax morality and imperil the foundation of knowledge and of law and order. Might we not cut out the pedigree, if it seem fanciful or compromising? Does the Bergsonian method stand or fall with it? Bergson has surveyed the whole field of life; he has studied the roots as well as the branches of the tree of knowledge. Suppose we do not agree with his reconstruction of the past, and find his explanation of the genesis of human faculties unconvincing. We may still reach his conclusion on the basis of present-day experience alone. Intuition is a fact of experience. There is a mode of knowledge which gifted persons possess, and which visits the ordinary mind at moments of tension. Telepathy savours of the occult, and Bergson does not lay much stress upon it; but he evidently regards it as a fact and as an instance of a supra-intellectual means of communication between accordant minds.² He finds more cogent evidence in the recognised fact of æsthetic intuition.³ The layman perceives a landscape.

¹ Cf. *Coriolanus*, Act V. sc. iii. : "I'll never be such a gosling to obey instinct."

² *En. Sp.*, p. 70.

³ *E. C.*, p. 192.

He has an external knowledge of its contents. Its parts are so arranged that his intelligence can grasp it as a whole for purposes of action. Yet to his eye the component parts of the scene remain merely juxtaposed, unorganised, lacking in intention, in life and meaning. The artist sees the same landscape. The material content of the perception is the same to both men. But the artist's vision is disinterested. He is detached in some degree from attention to the business of life. So he intuits where another merely perceives. His attention is keyed to the inner rhythm of nature; he sees creative form at work; he catches the meaning that gives vitality and unity to what we see as an assemblage of lifeless parts. Just because the artist has this intuition of meaning, he can make the scene live with brush or pen.

But what of the "plain honest man" who lays no claim to psychic or artistic powers? Does intuition play a part in his life? Probably it enters more than he knows into both his thought and his action. As to thought, Bergson urges repeatedly that we are not pure intelligences, but that there is a non-intellectual fringe to all intellectual processes.¹ William James teaches the same doctrine.² Indeed we can find authority for it in the classical systems. The Aristotelian *νοῦς* in some of its

¹ E. C., *Intr.*, pp. v, 50, 210.

² James, *Textbook of Psychology*, p. 163.

aspects must be translated "intuition"; and, as Joseph points out, Aristotle's deeper doctrine of induction carries us behind logic to intuition.¹ Any logician who faces the question, "How do we get our ultimate major premisses?" is bound to come to something like Hamilton's "philosophic faith." Bergson takes us to the history of philosophy for further evidence. He maintains that the enduring element in any of the classical thought-systems is not the dialectic, but the vision behind the dialectic, the vision which the dialectic seeks to interpret in intellectual terms.² In a famous address³ to a Congress of philosophers he protests against the idea that masters of thought have constructed their systems out of fragments of previous systems; he argues that in every great system there is a personal element, an element that defies historical analysis, an element springing from the personality of the thinker; this element is one, primary and dominant; it is in fact the intuition that inspires the whole system, the breath of life in the valley of dry bones.

Even minute philosophers can see the truth in what Bergson here says. After all, does any one accept any first principle on grounds of pure reason? The thinker accepts the formal element in one of Euclid's proofs, just as he accepts the logic of a

¹ Joseph, *Logic*, p. 357.

² *E. C.*, p. 259.

³ *L'Intuition Philosophique*, R. M. M., Nov. 1911.

sylogism. Such assent is no more than a quasi-mechanical recognition of a valid piece of ratiocination. The cogency of the demonstration does not extend beyond the mental process. As to the real existence of a Euclidean space or of a logical framework of thought, he reserves judgment. Experience [?] has taught us that truths worth anything are not demonstrable. We find truth by "trial and error," ^x just as Nature makes things. We start by entertaining truth as a hypothesis, familiarise ourselves with its consequences, let it sink into the tissue of the mind, in fact, live with it and live into it. Assent on ultimate questions is not forced. It grows. That inner growth of conviction is an unconscious method of intuition.

As to action, intuition probably forms the basis of most big decisions. We can catch a tram by intelligence, and intelligently make a programme for a day's work. But in the case of action which stirs the deep waters, intelligence fails us, sometimes misleads. When the call to arms came seven years ago, I doubt if many young men took a purely rational view of the situation. Very few of our young intellectuals stopped to weigh the "pros and cons." Some no doubt said to themselves, "I'm a fool if I go, but a greater fool if I stay." The prudent calculations of intelligence went by the board when intuition spoke. Such intuition is not an unreasoning impulse to action. The herd

instinct plays a small part. But in volunteering there is more than motive, more than impulse: there is sudden knowledge. Awareness of country, awareness of manhood, awareness of citizenship and its duties came like a flash to many in those great days. But enough has been said, I imagine, to prove that intuition is a fact. Bergson is only asking us to bring into full consciousness and apply systematically in philosophy a procedure which we unconsciously adopt in life's crises, intellectual and moral.

Can it be done? We may distrust intelligence; the sceptic does so. We may recognise intuition as a fact of life; the mystic does so. Can we go beyond the positions of sceptic and mystic? Can we hope for conscious control of intuition? Can we remove it from the realm of subjective fancy and dogmatic assertion? Is there any mint to stamp the emblem of truth upon intuitive ideas and thus make them current coin? In a word, is the intuitive method practicable in philosophy?

This is a crucial question. It is not easy to give a "yes or no" answer. Bergson certainly makes it seem practicable. In his hands the *novum organum* is a powerful weapon. Whether others can be trusted with it is not quite so certain. Any teacher of philosophy sees the dangers attending the doctrine of intuition. The road may be safe, but it needs fences. Youth too readily welcomes the prospect

of a short-cut to a universal knowledge. Youth is naturally intuitive. Laborious investigation is a necessary corrective to the dogmatic intuitionism of our early days. Perhaps the method of intuition is only for matured minds, for those who have been intellectualists and are haunted by the spectre of universal doubt. At any rate we cannot judge the method until we have seen its applications. May I suggest that we first watch Bergson's treatment of intuitive problems, that we postpone judgment on the instrument until we have seen the expert use it? Meanwhile it is important to understand what Bergson's primary aim is and how he proposes to achieve it.

His aim is to establish immediate contact with reality. He is not content to move about in a world of phenomena "half realised": his goal is the thing *per se*. He has such confidence in the hitherto unexplored powers of the human spirit, that he thinks it possible. He thinks it possible to get back behind the process of terrestrial evolution, a process which in revealing phenomena has veiled the *per se*. It is worth noting that one of his early uses of the word "intuition" makes it equivalent to the datum of sense.¹ Evidently he believes in degrees of intuition. We touch reality at three points, matter, life and mind; but we touch it through the veil of concepts, a fabric that human

¹ M. M., p. 59.

use has woven. Intuition wants to rend the veil and reach the shrine. To touch the real immediately would be a comprehensive self-consciousness, a conscious experience of our material, vital and psychic selves. Integral experience is the goal of the intuitionist method and the "acid test" of intuitions. Obviously this doctrine widens the scope of philosophy and gives it a progressive objective. Truth is no longer to be regarded as a photographic copy of reality in terms of concepts. Truth for the individual or for the group is the fullest experience of reality of which he or the group is capable. Here we meet again Bergson's primary intuition, duration. Truth *endures*: therefore it lives and grows. A static stagnant truth is impossible in a growing universe. For that growth there is no adequate formula. A truth formula at the best is purely symbolic. The way of truth must lie in an extension of experience, in equating consciousness with life.¹

This is an ambitious programme. Expressed thus it sounds like a vague generality born of pious aspiration. But Bergson's aim is anything but vague. He is ready to fill in details of the programme. He tells us that intuition can throw light upon our personality, upon our liberty, upon our place in nature, upon our origin, and perhaps also upon our destiny.² If that be so, intuition is valuable

¹ E. C., Intr., pp. v and 193.

² *Ibid.*, p. 290.

indeed. We ask at once, "Can the method be taught and learned and practised? Is an education in intuiting possible? Or do intuitions just come to the privileged, unasked, unsought?" The first lesson is to adopt the attitude. Bergson tells us that the method of intuition makes a call upon our powers of sympathy. Intuition is rather an attitude to problems than a faculty for solving them. We might almost define intuiting as a mental attitude characterised by sympathy with the object of thought. If the thinker stands aloof from matter, life and mind, when he is studying their phases, he may get a clear conceptual working knowledge of them, but he will not know them from within. The Bergsonian method tells us to throw ourselves by an act of self-projection *in medias res*.¹ Intuition is a mental stethoscope. The intuitionist tries to feel the heart of things, the pulse of life and the urge of mind. He does not put leading questions to Nature; he is not an arrogant cross-examiner: he prefers the attitude of the sympathetic listener. In a word, he does not stand aloof from the whole of which he is part.²

Then again, intuitions are not tit-bits of true information; so they cannot be passively accepted on the word of the master. The method makes a personal demand. It calls for active collaboration. In the first place the intuitionist must cultivate

¹ *E. C.*, p. 217.

² *Ibid.*, p. 209.

intelligence in order to transcend it. He must get facts as the scientist gets them. The flower of intuition is rooted in the soil of science.¹ Bergson's philosopher does not simply take facts ready-made from the hand of science and build upon them. Of course he makes use of the work of other investigators, but he holds himself at liberty to scrutinise from his own point of view any scientific generalisation or law, that is, to assist as far as he can in the formulation of facts. Bergson has, for didactic purposes, accentuated the contrast between intuition and intelligence; but he admits that in practice the two are inseparable. The method of intuition is not an attempt to short-circuit intelligence. Bergsonism is not "metaphysic without tears." The long-continued labour of the intellect is in evidence throughout it. The intuitionist philosopher is too busy to be moonstruck. He is not a dreamer sitting with folded arms awaiting the illapse of the heavenly fire. He does not pretend to possess an occult faculty or mystic clairvoyance. If he gets an intuition, he has earned it.

Suppose then the spade-work of intelligence done, how are we to approach the business of intuiting? Bergson gives us two descriptions. In one passage he represents intuition as a gradual intellectual conversion.² In others he tells us that the effort of pure intuition is an inner concentration of faculties

¹ *E. C.*, p. 212,

² *Ibid.*, p. 32.

which cannot be sustained for any length of time.¹

The two descriptions are complementary. The former refers to the preliminary work, the latter to the climax. It is said that the preliminary stages of the ascent of Mount Everest will occupy many months, and that the storming of the peak will be a matter of a day or two. The act of pure intuition is just that storming of the peak. The intellectual conversion is nothing sudden. It is the long, laborious ascent of the lower slopes. It is a persistent self-criticism through a long course of study. One must use the intellect in reading what others have written, and in trying to formulate and express one's own thoughts. But as one uses it, one can learn to recognise and correct its materialising tendencies. That correction made, a gradual modification of mental procedure would be effected; thought would cease to erect a barrier between subject and object and would become an inner apprehension by intellectual sympathy. That grip of reality is the goal of the method of intuition.

¹ E. C., pp. 209, 218, 258-259.

CHAPTER II

FREE-WILL

FREE-WILL is the primary subject of Bergson's earliest philosophical work. The French title of the book, *Les Données immédiates de la Conscience*, disguises the fact. It becomes explicit in the title of the authorised English translation, *Time and Free-Will*. Bergson's intuition of cosmic duration decided his view of that phase of duration which we call human nature. He conceives the human will as *chose qui dure*. So we may credit this well-worn problem with having helped to elucidate the method of intuition. It is evident that as he studied the springs of human action *sub specie durationis*, in trying to express what he experienced, he found the process of intelligence circumscribed, its scope narrow, and was confirmed in his belief in the possibility of the intuitive method.

Is man a free agent? Every thinker must at some time feel the grip of the question. It is a problem common to psychology, ethics and metaphysics. It touches life at every point. It cannot be considered unimportant, artificial or unanswerable. Again, to answer it in the negative seems at first

sight the height of perversity. A man will do and dare anything for liberty; in that cause he will sacrifice all other goods. Touch a man's liberty and you touch his self. Yet the reality of freedom is questioned by many free-thinkers and denied by not a few. The distinction between theory and practice does not lessen the difficulty. A man cannot be practically free and theoretically unfree. You cannot constitute a free community out of automata. There is no collective freedom not based on individual freedom, nor individual freedom not based on the freedom of the will. What freedom means is another question. The conception of freedom requires fences alike in philosophy and in political science. But to maintain metaphysical necessity, while prizing and promoting freedom in practice, is surely to disintegrate experience. If the mechanical theory of the universe require the postulate of universal necessity, *tant pis* for the mechanical theory. The interests of humanity have a prior claim. One wonders whether determinists do not except themselves from their doctrines. To surrender belief in a possible personal freedom is a dangerous thing. It is first-cousin to physical loss of nerve. It is a surrender which imperils intellectual as well as moral endeavour. Some people want to eat their cake and keep it. They cheerfully deny freedom. Do they face the alternative? Can the determinist put it positively and

personally, and say, "I am an automaton"? If so, perhaps he is or will soon become so. That is loss of nerve, the breaking-point of the will.

I hope I do not seem to be making a dogmatic assertion of the fact of freedom. This is no appeal from reason to popular prejudice. The aim of these introductory remarks is to focus attention on the widespread and deep-seated conviction that a unique quality is present in human action. That quality we may call freedom. This intuition of freedom forms the natural starting-point of the debate, and that starting-point Bergson adopts.

The key to Bergson's method of treating this problem is found by combining the French and English titles of his book: *Les Données immédiates de la Conscience—Time and Free-Will*. He takes free-will to be one of the primary data of consciousness. In his eyes to doubt freedom is to doubt an implicate of consciousness. The intellectualist takes freedom as an abstraction and discusses its compatibility with other abstract ideas. Bergson tries to grasp concrete experience itself apart from its symbols;¹ he aims at making immediate contact with it by an act of sympathetic self-projection. In other words, he places himself at a stroke at the moment of action and intuites the quality of the action. He asks, "Is there at that moment a *proprium* of my action, any specific quality which by contrast with other types of action I am entitled

¹ *T. F.*, p. 108.

to call free? " He answers unhesitatingly " yes "; and those who trust experience more than they trust an intellectual reconstruction of experience will probably agree with him. Then the task of this part of his philosophy is to justify the intuition of freedom.¹ Spinoza was convinced that necessity rules the world; so his question ran, " What makes men think that they are free? " He attributes the illusion of freedom to ignorance of causes.² Bergson inverts the terms. For him, the question is, " What makes some men think they are not free? " This compulsion neurosis, how does it arise?

Bergson's exposure of the illusory character of the determinist argument and of some indeterminist arguments occupies the third chapter of *Time and Free-Will*. The first two chapters are preparatory to this task. He maintains that in the minds of determinists and of some misguided champions of freedom there is a confusion of duration with space, of succession with simultaneity, of quality with quantity.³ The book opens with a closely reasoned argument to establish the thesis that psychic states are not quantities. The will that moves my hand as I write is something psychic. It acts into space but is not in space. No mode of will has weight or position. The measures and numbers that apply to quantities are inapplicable to it. Bergson proceeds systematically. He takes one by one the

¹ T. F., *Avant-propos*.

² Spinoza, *Eth.*, ii. Prop. 35.

³ T. F., *Avant-propos*.

various types of psychic states, representative, affective, deep-seated, superficial. He shows that we confuse the state of mind with its external cause or with its physical manifestation, and thus localise what in its nature is not extended. In localising the will we alter its very nature. This illicit translation of psychic facts into material terms we conceal from ourselves by the equivocal concept of intensity. We do not speak of a big will or a small will; but we do not hesitate to speak of a strong or weak will. We admit that wills do not differ in magnitude; we think, however, they may differ in intensity.

Bergson insists that the idea of intensity is ambiguous;¹ we apply it to representative states with an external cause, such as visual sensations; we also apply it to states of mind which have or seem to have no external cause. In the former case we trace a certain quality in the effect to a certain quantity in the cause. When we speak of an intense muscular effort or of an intense visual sensation, the magnitude belongs not to the psychic effect but to the physical cause. We perceive that many muscles are affected or that many stimuli reach the retina. The quality of the psychic effect bears no proportion to the quantity of the physical cause. The muscular effort and the visual sensation, *qua* psychic states, escape the meshes of the finest calculus. In this case then intensity is simply disguised extensity.

¹ *T. F.*, p. 54.

In the case of the more profound states of mind,¹ such as joy, sorrow, pity, sympathy, etc., where the external cause is for practical purposes non-existent or negligible, intensity means something very definite about the psychic state itself. An intense sorrow is a sorrow into which a great number of soul elements enter. Many chords in the memory are struck; many hopes for the future are dashed. Intensity in this sense gives us the picture of a multiplicity of interpenetrating psychic states. This psychic multiplicity is essentially different from the multiplicity of number. It introduces us to a non-spatial world of mind, where the units of experience are not juxtaposed, nor external to one another, but interpenetrating. This psychic realm is for Bergson duration. He says in effect, "despatialise intensity, remove from it all idea of magnitude or number, and duration results." It is from the standpoint of duration that he would have us judge the quality of human action.

The second chapter is concerned with the relation of psychic states to time. Having freed the will from the tyranny of space, Bergson proceeds to free it from the tyranny of time. Are psychic states in a time series and determined by their position in that series? Is my present decided by my past? Is an act, that seems to me free, in truth the necessary consequent of its temporal antecedents? Professor Alexander in his *magnum opus*, *Space Time and*

¹ T. F., pp. 7-15.

Deity, speaks of Bergson as "perhaps the first philosopher in our day to take time seriously."¹ Phrases like "temporis partus" or "the workings of time" are for Bergson more than metaphors. Indeed in making time an active constituent of the universe Bergson seems to have anticipated one feature of the relativity theory of a space-time continuum. Taking time seriously Bergson draws a distinction fundamental to his whole system. He distinguishes abstract time from real time. Abstract time may be either the t of the mathematician or what the clock tells; it may be measured by abstract thought or by the movement of the sun or by the swing of a pendulum; in any case it is measurable; for it consists essentially in a succession of discrete instants. There is no distinction in quality between instant and instant; one instant exerts no influence on another instant. The instants are simply mathematical points in an infinitely divisible line. The instants grouped together form a medium in which events happen. It is an indifferent medium; nothing might happen, and still, we are accustomed to think, time would flow. Time is thus simply a static background for a series of events. We picture it as a line, or as an ever-rolling stream, and on that line or stream we try to project our experience, our thoughts, emotions or acts of will.

The conception of abstract time is of great practical convenience. We could not do without it. But

¹ Alexander, *Space Time and Deity*, Vol. I, p. 44.

the philosopher must ask, "Can we use it in metaphysics? Does it look genuine? Is it more than a convenience?" Bergson says "No." Abstract time, he argues, is nothing because it does nothing. It does not affect or colour our experience. It is not even an atmosphere; for it exerts no pressure. He concludes that abstract time is merely a human convention.

Time thought in abstracto is nothing; time lived is for Bergson the stuff of reality. Real time is the time whose lapse we feel. He calls it duration. Duration is, as we pointed out in the first lecture, the primary and dominant intuition of the Bergsonian metaphysic. Bergson intuites the universe *sub specie durationis*. Duration then is not the passive continuance of a temporal series. It is not a homogeneous medium composed of a number of instants. It is active experience. It is the essence of life, memory and spirit. We feel it in the heart-beat; we feel it in thinking and in will action. It is, in fact, spirit and whatever tends towards spirit. Why, we may ask, does not Bergson simply call it spirit? Why does he give it this time flavour by calling it duration? One reason is that spirit viewed as concrete time is sharply marked off from matter. The essence of matter is the mutual exclusiveness of its constituent parts. The essence of spirit is the interpenetration of its parts. Matter is momentary being. The non-material, for instance a pain or a purpose, carries forward its past into its

present. Duration or real time is not composed of instants threaded together, like beads on a string. Its instants differ in quality ; they are heterogeneous ; they interpenetrate like the notes of a melody. In any instant of experience, the past of the experient is potentially present. Moments of real time are not so many ticks of a clock, or swings of a pendulum ; there is no *staccato* in duration ; duration flows and grows ; its moments are movements, its elements are continuous and non-recurrent. There are other phases of duration : we shall meet duration as memory and duration as life in subsequent lectures. For our present subject-matter, the human will, the following description of duration is adequate. " Pure duration is the form taken by the succession of our psychic states, when our ego just lets itself live." ¹

This discussion of time may seem remote from the problem of free-will. It is, in fact, an essential preliminary. We are not in a position to judge the quality of the action unless we have a true view of the nature of the agent. Bergson maintains that it is just this confusion of real time with abstract time that perverts our view of the nature of the agent.² He says that if we judged the question from the standpoint of inner experience alone, we should never represent time as a homogeneous medium. It is the intrusion of space that warps our view of time. Misconception of movement in particular leads us to spatialise time. We substi-

¹ *T. F.*, p. 76.

² *Ibid.*, p. 94.

tute the trajectory of the mobile object for the concrete movement itself. A further cause of confusion is the repetition of any well-determined external phenomena. For instance, when we listen to repeated blows of a hammer, the qualitative difference between the corresponding auditory sensations is almost negligible. Then we falsely infer that the elements of our psychic experience are as discrete and numerable as are the nails driven. Language still further facilitates this confusion. We make words stand for psychic facts. We can count the words: so we infer that we can count the facts. A series of artificially associated ideas takes the place of living thought. A juxtaposition of symbols is substituted for the compenetrating real terms of our experience.¹ Finally, the concrete personal self which endures and which, in Bergson's opinion, we may intuit as free and creative, becomes reduced to a pale shadow, the mere representation of a timeless and abstract Ego.

The cure for this confusion is, Bergson thinks, to distinguish duration from abstract time. He calls us, in fact, to recognise the spatialising tendency of intelligence. Abstract time is disguised space. Time in which we date events is the same as the three dimensions in which we locate body. If time be a homogeneous medium then it is simply space: for space is a homogeneous medium, and two homogeneous media would be indistinguishable.²

¹ *T. F.*, p. 102.

² *Ibid.*, p. 74.

Abstract time, Bergson finely says, is the ghost of space haunting the reflective consciousness.¹

Till this ghost is laid, we are not in a position to judge the nature of the will. We are reviewing the act of a personal will and its claim to freedom. The native bent of our minds impels us to pass judgment not on the original experience but on its image refracted through the space-time medium. That medium is the mirror of necessity. There is no room for freedom in space or in spatial time. In space each part determines the position of each other part. In linear time each instant determines the next instant. The whole is a network of necessity. The new and the free are crowded out.

Before applying this philosophy of time to the primary problem of free-will, let us watch its application to the subordinate problem of prediction. The two problems are interwoven. To assert freedom in any sphere is to deny the possibility of prediction in that sphere. Strictly speaking, too, to assert the possibility of prediction is to deny freedom. May I quote from J. S. Mill: "The state of the whole universe at any instant we believe to be the consequence of its state at the previous instant; insomuch that one who knew all the agents which exist at the present moment, their collocation in space and all their properties, in other words, the laws of their agency, could pre-

¹ *T. F.*, p. 75.

dict the whole subsequent history of the universe" ?¹ Mill has there expressed an aspiration of mechanism in an arresting form. The lure of the prophet's mantle draws many thinkers. Bergson denies the bare possibility of prediction. The universe, he says, *endures* and therefore grows. Time, for him, is not a lay figure but a creative force in the scheme of things. So time disturbs the most prudent calculations. Even supposing scientific knowledge to be complete, the wise man of Mill's fancy would be in a position only to describe the present, not to predict the future.

Bergson anticipates one obvious objection to his view. It is urged that astronomers actually do possess a limited power of prediction. Bergson's answer to this objection is rather subtle.² He maintains that scientific prevision is in reality vision. The astronomer does not see into the future; he simply reads the present more clearly and more fully than others do. The astronomer, so Bergson argues, represents the trajectories of celestial bodies by equations. The numerical relations, the simultaneities, the coincidences are all that matter to him. The intervals, the true duration of the heavenly bodies, their inner history, are neglected, because for his purpose they are negligible. Provided the numerical value of t is consistently preserved, the actual duration of t may vary without

¹ J. S. Mill, *Logic*, Book III, ch. v., § 8. Cf. *T. F.*, p. 110.

² *T. F.*, pp. 148-151.

invalidating the equation. Thus by reducing the interval to zero, the future eclipse is seen as a present phenomenon. In other words, the elimination of the "real time" factor enables the scientist to see celestial phenomena projected simultaneously on the canvas of space.

Perhaps the astronomer might not endorse fully this explanation of his own predictions; but he could hardly challenge the received opinion that there is a world of difference between predicting the movements of inanimate bodies and predicting the course of human affairs. Has not Bergson placed his finger upon the essential point of difference? In the one case time is an independent variable, in the other case a true constituent. In the sphere of the psychic, intervals are irreducible; continuous change is the essence of a career, of a policy, of a joy or a sorrow. You cannot abbreviate a moment of experience; abbreviation would alter its quality. To predict eclipses in the political firmament or to cast an individual's horoscope, these are impossibilities. No extension of human knowledge could make them possible. They are impossible because time has a direction. Time cannot be reversed like a cinema film; nor is its movement periodic like the horses in a roundabout. Real duration is not a *caput mortuum* nor a form of thought. It is something, because it does something. It creates. The human will, Bergson thinks, is a phase of duration, participant in creative power.

Just because the present is ours for free action, the future is shrouded in the veil of night.

I have here anticipated a later portion of Bergson's argument. His first concern is to answer the question, "How does the illusion of necessity arise?" The answer is, as we have indicated, "Because thinkers follow uncritically the natural bent of intelligence." Determinism is the result of thinking duration in terms of space and spirit in terms of matter. This answer is too broad to carry conviction at first sight. It is counter-battery work preliminary to the infantry advance. The telling thrust of Bergson's assault on determinism is yet to come. He selects two strongholds of determinism and makes them his objective. The first is the analogy of the physical sciences, the second the law of causality. May I deal with the first very briefly and with the second at greater length?

Bergson submits that there are two distinct doctrines of determinism, physical determinism and psychological determinism.¹ Physical determinism in itself does not touch the question of the human will. Physicists *qua* physicists, would, I suppose, reserve judgment as to its freedom. They would recognise that the problem lies outside their province. In their province *what is* is decided absolutely by *what was*; a strict causal sequence holds there universally. Chemical science would be impossible

¹ *T. F.*, p. 109 ff.

if spontaneity were ascribed to the elements. If hydrogen had a will of its own, it might reject the advances of oxygen, and our cisterns would be empty and our chemical experiments failures. No one questions the value or the truth of physical determinism in its proper sphere. Trespass is committed if it is applied to the psychic. Of course if thought and will are only forms of cerebration, then the law governing molecules governs also acts of thought and will. Freedom then becomes a mere name for an unknown physical cause. Bergson here outlines the case against materialism and parallelism, which he develops in *Matière et Mémoire*. He is at present mainly concerned to show how physical determinism passes into psychological determinism. The transition is mainly due, he thinks, to an unwarranted extension of the Law of Conservation of Energy.¹ This law, he says, has a psychological basis, which is none other than the Law of Non-Contradiction. Consequently it seems natural and logical to universalise this law and to use it to rule out spontaneity and freedom. The Law of Conservation is simply an expression of my belief in the permanence of any quantum while I am studying that quantum. Bergson expresses the law as follows: "What is given is given; what is not given is not given; and in whatever order one sums the same terms one will find the same result."² Obviously this law tells

¹ *T. F.*, p. 115.

² *Ibid.*, p. 115.

us nothing about the nature of what is given, and we have no right to allow a piece of intellectualism to challenge our wider experience of the real. No one would dream of doing so, were it not for the facile but false analogy furnished by psychological determinism.

A concrete instance will illustrate Bergson's argument here. The young student comes to college with, as he supposes, a *tabula rasa* of a mind and a free will. He thinks he can pick and choose his opinions, his pastimes and his career. Further experience of life discloses the workings of unsuspected influences. In maturer life the psychologist in him will prove that his *tabula rasa* was a fancy and that heredity, habit and environment had swayed his will. He learns that many of his actions he once thought free were in fact decided by motives and influences external to the act itself. A revulsion of feeling carries him to the opposite camp. He wonders if he did anything freely. He constructs reasons to account for every action.¹ He de-personalises every mood and thought. He treats motives as if they were physical forces. At that stage the analogy of physical determinism occurs to him. Law, rigid, unalterable, universal, holds in physics; may not, he asks himself, the same law rule the land of spirit too? Thus physical determinism lends moral support to psychological determinism, and the intimations of psychic

¹ T. F., pp. 120, 121.

necessity appear to confirm physical necessity. In this way a man's belief in an ordered universe may crush his belief in his free self.

We pass now to the principle of causality.¹ This is the very citadel of determinism. A free act, it is urged, means an uncaused act, and a causeless effect not only contradicts experience but violates the charter of the mind. The difficulty, says Bergson, is artificial. He argues that there are two distinct notions of causality;² that either notion by itself facilitates belief in the freedom of the will; but that when the two are blended the difficulty arises.

Take any concrete action that we call free. It is not a bolt from the blue. It cannot be isolated from the body of our experience. It is connected with the interests and pursuits perhaps of years. We can assign reasons for it and find plenty of conditions *sine qua non*. It is not unoccasioned, and therefore in a sense not uncaused. Does that causality detract from the spontaneity and freedom of the willed act? It all depends what we take causality to mean. The empiricist's account of causality is that one group of phenomena precedes another group regularly.³ Such causality contains no suggestion of necessary determination; in fact it negates necessity, and by so doing leaves the ground clear for the free act. But we mean by causality more than that. A subjective liaison

¹ T. F., p. 152 ff. ² *Ibid.*, p. 164. ³ *Ibid.*, pp. 154, 155.

which the mind imposes upon phenomena objectively independent does not come up to the intention of the term "cause and effect." When we speak of poison as causing the rat's death, we regard the cause as exerting an actual influence upon the rat's system. The effect, rat's death, is preformed in the cause "poison." Bergson brushes aside this merely subjective causality and concentrates attention on those two classes of objective causes which actually contain their effects preformed,

There are two ways, he says, of conceiving this preformation of the effect in the cause. Mathematics give us the first type.¹ In a mathematical definition a number of theorems are contained. They are involved and, as it were, preformed in the definition. The properties of a triangle are preformed in the concept triangle. As I draw it, *eo ipso* I draw its three angles equal to two right angles. There is the ideal causal relation. The necessity is absolute, because the relation is timeless. The triangle and its properties are generated simultaneously. There is no time interval between cause and effect. The preformation of effect in the cause is conceptual and therefore perfect. In other words, in mathematics the causal relation is the relation of inherence. The *causa sui* is the determinist's ideal.

Now if we mortals were timeless beings in a timeless universe, timeless causality might satisfy

¹ *T. F.*, p. 156.

us. But as things are with us, causality requires a time interval between cause and effect. A *vera causa* in human affairs must contain the future preformed in the present. The type of such preformation is not given in mathematics but in psychics.¹ It is in its lowest terms the feeling of effort. The effort may be intellectual or muscular. In either case the action proposed is anticipated in idea and feeling. This is the causality which we know from within. I propose to lift a heavy weight. Experience has taught me the wisdom of preforming the action. I make an actual forecast of the effort likely to be wanted. I feel it in my muscles before I move a muscle. In this case my volition is the cause and the movement of the weight is the effect. The effect first presents itself as a possibility; it is preformed both as idea and as muscular sensation. Now this causality is quite different from mathematical causality. In this case the preformation though real is not perfect. The action presents itself to the mind as a possibility, not as a necessity. The agent can stop anywhere between the idea of the action and the action itself. The mental process is one and continuous, but free-will is assumed at every stage of it. Force—real force as distinct from the acceleration of motion—is the psychological basis of our idea of causality experienced in time; and the exertion of force implies freedom.

We have reviewed two distinct types of causality.

¹ T. F., p. 161.

The former, necessitating causality, has no proper bearing on the question of free-will. Indirectly it supports freedom, by accentuating the difference between the two provinces, quantity and quality. If we have a clear notion of the causal relation as timeless, equivalent and reciprocal, we see at a glance that such a notion is the product of mathematical reasoning and is applicable only in that sphere. On the other hand, we may have an equally clear notion of psychological causality as a relation in which the effect, though forecasted in the cause, is not fully contained in it, though influenced by the cause is not determined by it. The latter notion of causality, far from negating freedom, suggests it; for the idea of psychic force is the idea of indeterminate effort.¹ If we harden our hearts and assert that every act is caused and is therefore unfree, we are voluntarily enslaving ourselves to an equivocal word. When the two incompatible notions represented by this one word "cause" become fused, then and then only is causality the foe of freedom. The assertion that "every act has a cause" means no more than "every act has an immanent history." I think that that sentence summarises with fair accuracy Bergson's conclusion about the causal law in relation to human action.

We here leave Bergson's refutation of determinism and come to the positive aspect of his teaching. What is free-will? Most indeterminists define

¹ *T. F.*, p. 164.

freedom as the power of choice. Here Bergson parts company from indeterminism. He considers that our conception of choice is radically unsound and that to base free-will on the power of choice is bad tactics. He starts from Mill's statement, "to be conscious of free-will must mean, to be conscious before I have decided that I am able to decide either way."¹

According to that statement freedom lies not in a quality of the act itself, but in a relation of the act to a non-existent something. A course of action I did not adopt and am not going to adopt is for me nothing at all. It is absurd to make it the measure of the freedom of the course I do adopt. To abandon belief in free choice costs the libertarian a pang. Free choice is an argument for free-will that appeals directly to common sense. Now Bergson is not disarming the champions of free-will. He tells them that their favourite weapon is as dangerous to themselves as to the enemy. "I might have done otherwise," says the indeterminist; "therefore what I did, I did freely." The determinist rejoins, "If you might have done otherwise, then something outside you decided your action." Both arguments, says Bergson, are inconclusive.² Both are based upon the false and misleading supposition of an indifferent will equipoised between two different courses of action. Both represent deliberation as a

¹ *T. F.*, p. 133. J. S. Mill, *Hamilton's Philosophy*, p. 580.

² *T. F.*, p. 137.

form of oscillation in space.¹ Place yourself, says Bergson, in the stream of duration at the instant of action, and the pictured alternative does not exist. You are free not because you might have acted otherwise, but simply because you act.

But are we not as a matter of fact free to choose? Surely the pluperfect subjunctive tense has some meaning. Of course choice is a psychic reality; deliberation, indecision, hesitation are as real as any other states of mind. There are, we will say, two careers open to the young man. He decides on one and takes steps accordingly. Then something happens to make him revise his decision. He reverses his steps and strikes out on the other line. Such a case seems proof positive of the equal possibility of alternative choices. But examine the case closely. The first decision, the reconsideration, the second decision, form a succession of states of the man's mind. The psychic development is one and continuous. The very hesitation, the false start, the reversal, the fresh start are *solidaire* and qualify the final decision. There is no "as you were" in the military vocabulary of the will. The will has no *zero* line from which it advances and to which it can retire. Time is irreversible: what we have lived, is lived and cannot be un-lived.

Again, can we not prove directly that the free choice of the indeterminist is an illusion? As to past experience, to debate possible alternatives is

¹ T. F., p. 140.

idle. Might Cæsar not have crossed the Rubicon? It is a meaningless question. It is equivalent to asking, "Might Cæsar not have been Cæsar?"¹ To experience in prospect the test of introspection can be applied. We can watch ourselves coming to a decision. Take a homely instance from everyday life. Shall I go by tram or by train to Dalkey? We appear to others to debate the point impartially; they think we are equipoised between the two alternatives; we may deceive ourselves into thinking that the question is open. But the debate is hollow; the decision, if only a provisional one, is already taken; we may even be aware beforehand that when we are seated in the tram we shall say to ourselves, "I could have gone by train and half wish I had." In other words, the opinion of unfettered choice rests on wisdom after the event. To put the same thing in more Bergsonian language—when we are looking back on a past period of indecision, we make a spatial representation of that experience.² We picture ourselves at a point from which two lines diverge. Space intrudes into real time. The line we did not take, on paper is equally real with the line we took. In our mind's eye both lines are equally real. But cease to visualise; cease to see symbols; *think* the two lines and, in the mere act of thinking, the rejected alternative vanishes. A classical illustration will make the point clear—the choice of Hercules. The high-road of his life

¹ Cf. *T. F.*, pp. 143-144.

² *Ibid.*, p. 134 ff.

bifurcated. One sign-post pointed to Virtue, the other to Vice. Of course, being Hercules, he took the path of Virtue. Hercules on the path of Vice is simply an idle fancy. Were Hercules at a bifurcation of an actual macadamised road, the left and right would be equally real. But the equal reality entirely depends on the alternatives being in space or spatially pictured.

If freedom is not the power of choice, what then is it? It is a quality in the action itself. It is not the power of doing what we like. It is rather the power of liking what we do. If man is an automaton, his action does not differ in kind from mechanical action. But most of us feel that there is something distinctive about our best actions at our best moments, something that makes action worth while. That is all the philosopher should be required to show. Bergson describes freedom as the relation of the concrete ego to the act which it accomplishes.¹ He attempts no definition of freedom. In fact one of the main purposes of his argument is to show that definition from the nature of the case is impossible. He reviews three suggested definitions of the free act.² Some say the free act is what might not have been. Some say it is what could not have been foreseen. Some say it is what is not necessarily determined by its cause. He argues that the assumption of each one of these three definitions leads to determinism, by destroying what it claims

¹ *T. F.*, p. 167.

² *Ibid.*, p. 168.

to define. Freedom is too fundamental to be explained in terms of anything else. It is given in and with personal consciousness. Like action itself, freedom is something we experience but cannot define. That does not mean that we can say nothing about it. Description of some of its aspects is possible, and such description enables us to know to some extent what it is and where to look for it.

Freedom involves an expression of the whole personality.¹ Bergson goes that length with the self-determinist. Rashdall says that Bergson's position is "fairly describable by the word self-determinism."² I am not sure that Bergson would approve the label. Self-determinism is often merely determinism disguised, flavoured to suit the tastes of ethicists. We might, I suppose, admit the accuracy of Rashdall's description if we remember the uniqueness of the self and the uniqueness of its determining. The self, for Bergson, is a growing Ego, a creative entity; its determining is more than a mechanical unfolding of a pre-arranged destiny. Free acts are characteristic acts: they express the man. In a sense the man is more than his will. Analytic psychology treats will as one member of a triple alliance of faculties. In that narrow sense the will is not free. It is strictly conditioned by thought and feeling. The self as a living whole, thinking, willing and feeling, acts freely. Again,

¹ T. F., p. 127.

² Rashdall, *Theory of Good and Evil*, Vol. II, p. 349.

the free self is not an instantaneous existence; it is not the self of the present moment only. It is a development from past personality, and therefore carries its past forward into its present. Free-will as expressing that growing self cannot be capricious: it is responsible; it is weighted with the sense of its past. It is not an intermittent agent, or a rare visitant like the angel at the pool of Siloam. Its operation is continuous; its roots run far back into the past, behind the lifetime of the individual. Inherited disposition, instinctive impulses, temperament, the idea that guides, the feeling that motives, all these form part of the self that acts.

Les Données immédiates leaves the question at this point. Bergson has exposed the illusion of necessity and has shown that freedom is an ultimate factor in human experience, a quality of action that expresses the whole self. His later writings bring the problem into connection with a wider metaphysic. His intuition of duration expands. Mankind endures but has no monopoly of duration; mankind is free but has no monopoly of freedom. Bergson does not grow out of his faith in human freedom, nor does he lose sight of its distinctive character. Yet in *L'Évolution Créatrice* he depicts human freedom as part of a wider movement. Human free-will there becomes the flower of cosmic free mind, and life is the great agent of liberty. Mind for Bergson represents the creative process of the universe, the continuously acting opponent of the matter trend.

He regards life as a lower phase of mind : so life is a vast liberty movement. Thus life and liberty are inseparable, and free-will is set at the heart of the cosmic process. This, of course, is speculation. It may commend itself to some thinkers and not to others. But freedom as a fact of human experience stands on its own feet ; it finds a secure footing on the earth and does not need the towering pedestal on which speculation would set it. At the same time we cannot dispense with the metaphysician's comprehensive vision. A study of Nature's freedom may confirm our intuition of our own personal freedom. There seems to be in Nature a scale of freedom, just as there is a scale of life. A more emancipated will seems to accompany a rise in the scale of life. It may well be that freedom is an upgrade tendency, realised in the universe in varying degrees, counteracting the downgrade tendency towards the automatic and the mechanical.

If we leave theory aside, and ask for Bergson's teaching as to the extent of freedom in practice, we find the answer in his phrase, " degrees of freedom." ¹ Some men are more free than others, and each man has his moments of greater or lesser freedom. The degree of freedom depends partly on the psychic tension of the person at the moment of action. There are different planes of life and action. One and the same outward action may represent completely different internal states. I raise my hand

¹ *T. F.*, p. 127.

to balance myself—a reflex action. I raise my hand to stop a 'bus—the volition is microscopic. I am not "totus in illis." I raise my hand in token of surrender or in token of defiance—acts which deliberately done permanently modify personality. Experience at one time seems a succession of impersonal states; the sense of personal unity is submerged; my state of mind at four o'clock determines my state of mind at one minute past four. At moments of crisis states of mind disappear, necessity disappears, clock-time disappears. All is personality, freedom, duration. The great moment finds or makes the great man. The "psychological moment" is well named. It is known by a psychic synthesis, by an inner concentration of personality. The man's past, both what he inherits and what he has himself achieved, bears down on his present and gives birth to climacteric actions. Such actions are free because the whole man is in them, free because decided by nothing outside the man, free because creative of personality.¹

Bergson admits that the height of freedom is only rarely attained.² Many, perhaps most, of our actions are so nearly at the mechanical level that for practical purposes we may call them mechanical. It is unwise to cheapen the word "freedom." All organic movement probably has been free, and still contains, as it were, an embalmed freedom. It seems as if Nature economised freedom. She appears to make use of

¹ Cf. *T.F.*, pp. 127-128, 130-131.

² *Ibid.*, p. 128.

mechanism to perform actions that at first were free, and thus husband her energies to attack higher problems. Physical skill, for instance, is an originally spontaneous effort which by repetition has become automatic. Bergson is so much impressed by this aspect of psychic growth that he distinguishes two aspects of the Ego.¹ He speaks of the superficial self and the deep-seated self. The life of the superficial self is largely automatic. It is that side of our nature which we present to the outside world. The fundamental self is free, though it only rarely intervenes in conscious experience. The difference between the two selves is, of course, only one of degree. This point needs emphasis; for it removes an apparent inconsistency in Bergson's doctrine. At one time he treats every human action as free; yet he says that many men live and die without having known true liberty.² Le Roy says in his masterly exposition of Bergson's teaching, " nous sommes libérables plus que libres." ³

Bergson's pride in human liberty is sobered by his sense of the prevalence of automatism. He regards the highest human free-will as something to be wrested from the jaws of necessity. Men, in his eyes, are not free as air, neither are they slaves. They are fettered free-men, free to file their fetters, free to achieve freedom. Bergsonian freedom is not a possession to be enjoyed, but an infinite enterprise.

¹ *T. F.*, p. 95 ff.

² *Ibid.*, p. 128.

³ Le Roy, *Une Philosophie Nouvelle*, p. 75.

The enterprise takes shape as the task of self-creation. This is Bergson's most complete and perhaps finest expression of his intuition of freedom. Free acts are those that create personality. The creation of free personality would seem to be the proximate purpose of the evolution of life on this planet.¹

¹ *En. Sp.*, p. 33.

CHAPTER III

MIND AND BODY

Matière et Mémoire is the title of Bergson's second important work. The purpose of the book is "to define the rôle of the body in the life of the mind."¹ The book was published in 1896, about six years after *Les Données immédiates*. The author tells us that during that six-years' interval he set himself to find out what physiology and pathology teach for fact as to the relation between the physical and the moral.² The problem of mind and body took shape for him as the problem of perception.³ He saw that mind is most accessible in the form of memory, and that memory becomes embodied in and through the senses. He made a minute study of the literature of aphasia. Aphasia furnishes most instructive types of abnormalities of memory; and it seems to be essentially a dislocation of word memory; and in the memory of words, their sight and sound, we find, so Bergson thinks, the vast problem of mind and body focussed to a point.

The problem of perception seems at first glance remote from that of mind and body. So much so that perhaps I owe you an apology for announcing

¹ *M. M.*, p. 198. ² Le Roy, *Une Philosophie Nouvelle*, p. 9.

³ *M. M.*, *Avant-propos*, p. vi. Digitized by Google

one subject and, apparently, lecturing on another. We all want to know how mind stands with respect to body; for that problem bears directly on conduct. We are not so much concerned to understand perception; for we can use our eyes, though we may be completely ignorant about the nature of vision. I must plead that I am following Bergson's lead, and that Bergson's choice of ground is just. If we consider attentively its character of sight or hearing, we shall see that perception is a test case. If we could explain "how we see," the problem of interaction would be solved. Perception is a typical instance of the compresence of mind and body.

We see with the eye. Does the eye itself see? What is there in the eye that could transform light into sight? The eye forms images. So does a camera; yet we do not credit the camera with the power of seeing the images it has made. The authorities on the subject tell us that the eyeball is an optical instrument. They underline the eye's resemblance to a camera, its lens, aperture, screen and focussing device. They show its electrical attachment to the brain. The optic nerve is a twist of fibres running down from the occipital lobes; on approaching the eyeball it expands into the retina, thus forming the sensitive plate of the camera. That the image should be formed on the retina is in principle easily intelligible. It is due to the action of light passing through a lens to a sensitive background. But how and where does

the retinal image become vision? We may summon to our aid electrons, visual purple, and cerebral centres. They do not help to explain the essence of the problem. Electrons *ex hypothesi* are non-psychic. If the rods and cones of the retina do not see, is it credible that cellular or fibrous matter in the cerebrum can do so? The mechanism does not explain the function. The same difficulty meets us in the case of the other senses. In the inner ear the delicate terminals of the Organ of Corti receive and transmit vibrations. How do they transform vibrations into sound? The auditory nerve no doubt transmits the vibrations to the cerebral centre. That brings us no nearer the origin of the percept. It is surely unscientific to attribute occult powers to sense organs, to nerves, to the cortex, to electrons. To all appearance the fovea of the retina is as blind as a camera, and the Organ of Corti as deaf as a grand piano. As to any magic in the cerebral centres, one has only to take forceps and scalpel to them, to be convinced that it is not there. We see with the eye and hear with the ear, because in the sensory-cerebral process mind and body meet.

Perception then is a union of mind and body, and a solution of the problem of perception is our quest. Bergson's method of approaching the problem is again the intuitive method.¹ I would draw your attention to this fact. Critics say that Bergson

¹ *M. M.*, pp. 201-207.

preaches intuition but does not practise it. That criticism is not just. It is true that Bergson makes no parade of his method. He does not tell the reader at the start of a paragraph, "Now I'm intuiting." One has to read between the lines to find the method: but it is there, and it is what gives distinction to his treatment of the problem. He waits till the last chapter of *Matière et Mémoire* before drawing our attention to the fact that he has used the method; but the whole argument is conducted in the atmosphere of intuition, and the very opening words of the book, "me voici donc en présence d'images," give an intuitive setting to the problem.

The application of intuition here is more complex than in the case of free-will. It is comparatively easy to identify ourselves with the will. Self-identification with the act of perceiving is harder to compass. Intuition here prescribes at any rate what not to do. Both idealist and realist methods set up a barrier between thought and thing.¹ Both make a clean cut between percipient and percipienda, and thus they never touch the concrete perception. Bergson asks the reader to forget both methods. His aim is to study the undivided psycho-physical act of perceiving. Every sense action is an interaction. Consequently, though concrete seeing is one act, yet it presents itself to reflective thought under a double aspect. Therefore the intuitive study of perception demands two

¹ *M. M.*, Avant-propos, p. iii, and p. 63.

successive efforts of intuition—intuition on a high plane and intuition on a low plane.¹ The former is a self-identification with the mind element in perception; the latter a sympathy with the physical and organic elements of the same perception. These two efforts of immediate apprehension form the two pillars of Bergson's theory of perception.

He takes first the intuition on the lower plane. He tries to reduce perception to its lowest terms. He finds that the original and fundamental act of perception is that act by which we place ourselves "d'emblée dans les choses."² When he intuits that act, he represents the intuition in the words quoted above, "me voici donc en présence d'images." To follow the train of Bergson's thought, we must imagine our intercourse with the world of things after all psychic elements have been eliminated; we have to imagine experience as a *tabula rasa*, without memory, confronted with an instantaneous perception.³ That is the setting of what Bergson calls *pure* perception. In the case of sight, could we for the moment become literally "all eyes," we should have lowered ourselves to the level of pure visual perception. Here am I, and there are the chairs and tables, sun, moon and stars, etc. It sounds very simple. It is not so easy for the sophisticated self-conscious thinker to take these simple snapshots. We have in this case to pass a self-denying ordinance. We have to forget our

¹ Cf. *M. M.*, p. 198.

² *Ibid.*, p. 61.

³ *Ibid.*, p. 22.

supposed superiority to the inanimate things around us. Bergson would have us rule out even the term "thing" and substitute the neutral term "image." "Image," he says, is nearer the common-sense view of matter.¹ "Image" is an existence, more than a representation and less than a thing. In a sense this is an attempt to recapture the child's view of the world before he discerns objects and names them. The intuitionist tries to imagine how men and things look to an absolutely neutral observer, say a Martian, or the Sphinx or Alexander's angel. Bergson's meaning is plain enough. The human body is not exempt from the universal interaction. If it be true (and it is confidently asserted) that every point of space acts on every other point, it is clear that surrounding objects act on the brain and the brain on those objects.² In this elementary give and take between things Bergson finds the physical basis of perception. He asks us to intuit pure perception as a step towards understanding the true nature of concrete perception as we experience it.

So far we have left out of account two factors in perception, life and mind. In taking life into account, we have to modify our primary intuition of material existence. The introduction of life means the introduction of centres of indeterminate and real action into the world of images. In the case of vision, we are not studying a glass eye situated among other objects, but the eye sharing

¹ *M. M.*, Avant-propos, p. ii.

² *Ibid.*, pp. 4-6.

the life of the organism. The organism is a centre of indetermination. So organic perception is very different from physical contact and impact. The tennis-ball moves when it is struck: but it would be an abuse of language to speak of its fibres *perceiving* the racquet strings; "the ball no question makes of Ayes and Noes." A phenomenon differing in kind is presented by the impact of electrons upon the retina. The body that lives occupies a privileged position in the universal interaction. It is not merely one body in a democracy of bodies, but a privileged centre of real action.

Centres of indetermination are, for Bergson, force points where stimuli are not transmitted mechanically. The privilege of the body as such a centre consists in the fact that it absorbs part of the action of its environment: it is not content simply to reflect.¹ In other words, the body feels itself, as well as perceives its environment. While we treat the body as a mathematical point in space, it is, of course, indestructible and non-sentient.² But in point of fact the body is liable to wear and tear by reason of external influences: so it offers resistance to deleterious influences. Pain, for instance, is, for Bergson, an effort of resistance offered by a part of the body to the forces that injure. It is a local unavailing effort of the nervous system to put things right.³ Affection then is an ingredient of concrete perception. Just because the percipient is also

¹ *M. M.*, p. 53.

² *Ibid.*, p. 47.

³ *Ibid.*, p. 47.

sentient, his perception rises above the level of physical action and reaction. Given then a world of images and centres of indeterminate action, conscious perception, Bergson argues, must arise.¹ The deduction of perception is a necessary consequence of Bergson's intuition of living organisms in their material environment. Perception follows from the nature of life. But Bergson is not content to deduce merely : he thinks it possible to understand how this perception arises and what the nature of perception is.

Bergson defines perception as " a variable relation between the living being and the influences more or less remote of the objects which interest it." ² Perception, for him, originates in action and is primarily a form of action. He denies that perception is in its essence and origin a form of knowledge, and regards the assumption of the speculative interest of perception as the *πρῶτον ψεῦδος* of the idealist-realist controversy.³ If then perception originates in action, there must be some proportion between the perceptive powers of the organism and its radius of action.⁴ This, he says, is what we find. The nervous system is the great instrument of action. The more complex nervous system of the higher animals serves to place their motor mechanism in connection with a larger number of space-points. The higher animals can act far and therefore can perceive much.

¹ *M. M.*, p. 18.

² *Ibid.*, p. 14.

³ *Ibid.*, p. 20.

⁴ *Ibid.*, pp. 17 and 48.

Here we find the origin of the illusion of materialism. The intimate connection between perception and the nervous system is common ground to Bergson and to the materialist. Bergson admits that all goes on as if our perceptions originated in our brain and were projected thence without.¹ Sever a nerve and perception ceases. The materialist inference from that fact is quite false, says Bergson. This is a point of extreme importance in the Bergsonian theory; so we must examine it closely.

When the sense organ receives a stimulus from without, a movement in the body is set up. That movement, be it vibration or electric current, is transmitted by the afferent nerves through various nerve centres to the medulla, and finally to the cerebral centres. The movement does not stop there. From the brain it is redirected and passes along the efferent nerves to muscles and to other parts of the body. The whole process is complete and self-contained. If the in-going nervous current came to an abrupt end in the cortex, we might suppose that by some alchemy that part of the brain originated thought.

But, on the very showing of physiology, external object, sense stimulus, cerebral process and muscular response form one unbroken whole. At no point in it is there room for the birth of mind elements. "Chemical consciousness, chemical messengers, nerve telegrams"—one meets such phrases in scientific

¹ *M. M.*, p. 70.

descriptions of perception; but such phrases will not bear scrutiny. They are mere figures of speech, very misleading ones. Afferent nerves no more bring information than telegraph wires do. What they do bring to the brain from the outside world is a subtle form of motion. The severance of an afferent nerve is not the interruption of a message on its way, but the inhibition of a stimulus and the prevention of a reaction. The vibrations that come to the eye from a luminous body pass from the retina to the brain and are thence distributed through the system; but, surely, to credit that movement with the power of originating anything so heterogeneous as a percept or a thought or a feeling violates the first principles of science. If electrons had that power, they would be miraculous things. A movement can originate nothing but a movement, and, as Bergson says, we have no right to suppose mysterious virtues resident in the matter of the nervous system.¹ The cerebrum is not an information bureau, nor a storehouse of memory, but a distributing centre of action; that is ample function for one small brain.

The body is the centre of perceptions, not their source.² The nervous system is essential to human perception because it enables the body to receive stimuli, to co-ordinate them and to prolong them into appropriate movements. It does more. It enables the body through the senses to select some

¹ *M. M.*, pp. 66, 67.

² *Ibid.*, p. 37.

stimuli and reject others. The living body does not respond to all stimuli. In Bergson's words, "to perceive all the influences of all the points of all bodies would be to descend to the condition of material objects."¹ To perceive consciously signifies to choose, and consciousness consists mainly in this practical discernment. The education of the senses is an education in discernment. An image can be without being perceived.² If our representation of matter were something added to the action of matter, if, that is, there is *more* in representation than in presentation, the origin of perception, says Bergson, would be inexplicable. He argues that conscious perception arises by diminution.³ An object perceived is simply a conventional shell. It is that part of the *esse* of the object which the percipient has use for. A material point's instantaneous perception is infinitely more vast and more complete than ours.⁴ Conscious perception only catches certain rays of the image present. These are virtual representations on the fringe of our actual perceptions. Our perception is in the etymological sense of the word "discernment," a sifting of given possibilities.⁵

Those pages of *Matière et Mémoire* which deal with the genesis of conscious perception contain, to my mind, the most difficult and the least convincing part of the Bergsonian philosophy. Of

¹ *M. M.*, p. 38.

² *Ibid.*, p. 22.

³ *Ibid.*, p. 24.

⁴ *Ibid.*, p. 25.

⁵ *Ibid.*, p. 26.

course the senses are discriminating and selective; but how the resistance they offer to useless perceptions can give rise to the positive quality of consciousness I do not pretend to understand. Nor do I altogether follow Bergson's reason for dealing with the question of consciousness in this context. At this stage he is only concerned with pure perception, that is, with perception free from any psychic admixture. It seems premature to bring in the question of consciousness.¹ Perhaps Bergson is afraid of his own dualism, and is therefore concerned to show that there is an anticipation of the psychic in the physical basis of perception.²

The remainder of the section on pure perception seems to me quite clear and intelligible. Much of it is purely theoretical. But even as theory it is valuable. It shows, at least, that there is a possible alternative to the idealist and realist theories of perception. Idealism tends to sacrifice the reality of things; realism threatens the independence of the mind. Bergson has tried to steer a middle course, and he offers a theory which finds room for real minds and a real world of things and a real relation between mind and thing. This theory rules out the subjective origin of things; it shows that there is more in their *esse* than their *percipi*. It also rules out the notion that perception originates in the

¹ N.B.—“Conscious” and “psychic” are not synonyms. “Conscious” is the mark of the present. *M. M.*, p. 152.

² Cf. *M. M.*, p. 58.

brain. Perception, for Bergson, is, in the first instance, impersonal.¹ Judgments of exteriority, distinction between the me and the not-me, reference to the body, all these are secondary reflections. The given fact for the child is the nursery, not his representation of the nursery. External objects are perceived where they are, in themselves and not in me.² My perception of external objects does not remain, if they are removed or if the sensori-nervous link between them and me is broken. Perception is exterior to my body: it is the reflection upon surrounding objects of the action which those objects exert upon my body.³ Bergson does not credit external objects with psychic properties or powers. To locate perception in things is not equivalent to saying that things perceive.⁴ His theory of pure perception is summarised in these words: "My perception, pure and isolated from my memory, does not proceed from my body to the other bodies; it is in the *ensemble* of bodies at first, then little by little it limits itself and adopts my body for centre. That is brought about by the experience of the double faculty which my body possesses of accomplishing actions and possessing feelings; in a word, by the experience of the sensori-motor power of a certain image, privileged amongst all the images."⁵

At first sight it may seem that Bergson has played into the hands of materialism. He has apparently

¹ *M. M.*, p. 36.

² *Ibid.*, p. 49.

³ *Ibid.*, p. 47.

⁴ *Ibid.*, p. 52.

⁵ *Ibid.*, p. 53.

made perception a purely material process. The truth is that he has stolen the weapons of the materialist and used them against materialism. By showing that the stimulus from without and the nervous process within the body form one homogeneous movement, he compels us to recognise the presence of a different non-material factor. In this first part of his theory he has sketched for heuristic and polemical purposes an ideal genesis of pure perception. He insists, however, that this pure perception is not a fact of human experience. It is perception removed from the stream of duration; it is momentary perception; it represents an arrest of the pulse of life; it is a snapshot of an instant of perceiving. If the percipient could actually divest himself of personal consciousness, of memory, of judgments of distance, exteriority, interiority and utility, if, that is, he could descend to the level of matter, he would experience this pure perception. Thus the materiality of "pure perception" throws into relief the psychic character of concrete perception.

We come now to the second part of Bergson's theory. Upon the stock of pure perception are grafted, says Bergson, two things—affective sensation, which is our perception of our own body, and memory.¹ We have already outlined Bergson's treatment of affective sensation; memory remains to be dealt with. Here, I think, a second effort of intuition is required. Here we are concerned with a

¹ *M. M.*, p. 260.

higher plane of being. Memory differs in kind, not merely in intensity, from pure perception. Unless we draw a sharp line of distinction between the two, we are liable to fall into the error of regarding memory as a weakened perception or perception as an intense memory.¹ In the first part of the Bergsonian theory we lowered ourselves to the level of body: we try now to rise to the level of disembodied mind. The first effort of intuition gave us a picture of mindless perception: the second will offer a picture of disembodied mind. So far we have treated perception as if it were or could be instantaneous. But it is not, and cannot be, instantaneous. There is an element of duration in any and every perception. This element is not far from us: it is not abstruse or mysterious: to discover it we have only to place ourselves *en rapport* with the act of perceiving, and ask, "What else is there in that act besides the neural process?" McDougall calls it "meaning." Bergson calls it memory. The quiver of the optic nerve has a meaning that is not a motion; memories cling to that electric shock. Meaning and memory, it is either and both. It does not much matter what name we give to it, provided we recognise it as something different from the molecular movements and chemical changes that accompany it. It is something that gives value to perception, and that by its presence raises perception above the level of contact, impact, or chemical affinity. The

¹ *M. M.*, pp. 60-61.

memory aspect of this non-material factor naturally appeals to Bergson. For his is a philosophy of Time. He sees things *sub specie durationis*. What is memory but the continuance of past experience into the present? What is the distinctive quality of a concrete perception? It is the forward thrust of past time. Moral character is a synthesis of past moral actions which conditions all subsequent moral decisions.¹ Just so past perceptions combine to form a perceptual character which in turn conditions present perceptions. What I perceive, *eo ipso* I recognise. Vision is re-vision. Full recognition does not attend every perception; the recognition is usually sub-conscious. But it is surely true to say that there is no sight or sound, no smell, taste or touch that does not strike at least a faint chord in the memory. Our past stands ever at the door to usher in our present.

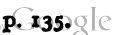
We must here pause to consider the materialist view of memory. A consistent materialism is bound to maintain that memory itself is a physical phenomenon. If one holds that perceptions are impressions on the brain, one must also hold that memories are physical traces of past impressions. A copious use of metaphor gives an air of plausibility to this account of memory. It will hardly bear stating in plain terms. If it were true, Bergson's whole theory would fall to the ground. So we must sketch Bergson's refutation of the materialist view.

¹ *M. M.*, p. 158.

Materialism builds on facts such as the following. Perception ceases when certain nerves are severed. Lesions of the brain entail loss of memory. Lesions of specific parts of the brain entail the loss of specific groups of memories. Bergson admits these facts; but he denies that they prove that thinking is only cerebration or that the brain is a storehouse of memory. According to his theory cerebral lesions involve disturbance or destruction of the motor accompaniment of memory.¹ The memory can no longer embody itself in perception. There is no destruction, he maintains, of the memories themselves. If a crack tennis player is "off his game," you may not infer that he has forgotten how to play. A string gone in his racquet may account for his failure. His knowledge of the game may be as good as ever; he may be seeing the ball well; his hand may not have lost its cunning; his timing may be perfect; yet all his knowledge and all his skill go for nothing owing to the lesion of a racquet string. The damage to the instrument prevents his knowledge from, as it were, embodying itself in side-line shots.

Bergson's argument is empirical. It is based largely on his minute study of the facts of aphasia. He examines the symptoms of word-blindness and word-deafness and similar maladies. In many of these cases the patients are not physically blind or deaf;² their sense organs are intact and their nervous system apparently unimpaired, yet the

¹ *M. M.*, p. 111.

² *Ibid.*, p. 135. 

word spoken or written means nothing to them. Most instructive because most inexplicable on the materialist hypothesis are those cases of aphasia in which the auditive and visual memory remains intact, but the faculty of recognition is lost. Bergson quotes the case of a patient who was able to visualise the streets of her native town and describe them in detail; yet when she was in the town and saw the houses she was completely lost.¹ She was unable to recognise what she saw. Memory was intact, sight undamaged, but there was a dislocation of the normal connection between the two. Bergson uses his own theory of memory to explain this and similar cases, and maintains that the materialist theory of memory can offer no explanation.²

But do not certain groups of memories disappear when specific parts of the brain are injured, and does not that fact prove a localisation of memories in definite brain areas? Bergson admits the fact but denies the inference. He confines the inquiry to those brain areas which are known to be connected specifically with the perception of the sound of words. If the word, he argues, expressed one idea and only one, it is just conceivable that an indefinite number of infinitesimally small memories might be stored in the brain.³ But as things are, it is really quite bucolic to suppose that one little head could

¹ *M. M.*, p. 91.

² Cf. *En. Sp.*, "La Fausse Reconnaissance," p. 117 ff.

³ *M. M.*, p. 123.

carry all the word memories of a man's vocabulary. The same word sound has an infinite number of shades of meaning. The meaning conveyed by the word sound varies with the context, with the inflection given by the speaker, with the intelligence of the hearer. Again, apart from the inconceivability of the materialist hypothesis, there are two facts that disprove it directly. First, deafness does not destroy auditory memories, and auditory memories can disappear without involving deafness. Whereas, if auditory memories were localised in the brain centre of hearing, an injury to that centre would involve and correspond with the loss of auditory memories. Second, if word memories were in cold storage in the brain, local lesions would mean the total loss of certain word memories and the integral preservation of others.¹ Whereas experience shows that verbal amnesia begins as a general weakening of the whole auditory faculty, and that word memories disappear gradually in their grammatical sets. Bergson quotes Ribot's law, that proper names go first, then nouns—and verbs last.

I have given an outline of Bergson's case against materialism in order to show that, when he was developing his own theory, he went very fully into possible objections from the scientific side. *Matière et Mémoire* is twenty-five years old. I do not know whether its physiology in whole or part is out of date. I fancy not. McDougall expressly endorses

¹ *M. M.*, pp. 124-125.

many of his arguments.¹ Dr. William Brown, a nerve specialist who treated hundreds of war cases on the principles of psycho-therapy, accepts this part of Bergson's theory.² I should add that M. Mourgue, writing in 1920 from the standpoint of neuro-biology, states that M. Bergson in *Matière et Mémoire* considered the problem (of aphasia) exactly as a modern biologist would consider it.³

We come now to Bergson's positive teaching as to the nature of memory and its function in the act of perception. Concrete memory, he says, is a mixture of two forms of memory. The two forms are inseparable in ordinary human experience; but failure to distinguish between them vitiates the theory of memory. We cannot, Bergson argues, understand the nature of memory if we start from impure or mixed forms.⁴ Each of the two forms reproduces in its own way past time: so each is rightly styled memory; but the modes of reproducing the past are so dissimilar that they must be considered separately. Bergson considers each form of memory from many different angles; he finds many points of distinction. Consequently he has to use several different names for the two memories. His general usage of terms would perhaps entitle us to call the one memory spontaneous, the other, voluntary.

¹ Cf. McDougall, *Body and Mind*, pp. 221, 248, 333, 358.

² W. Brown, *Psychology and Psychotherapy*, p. 117.

³ R. Mourgue, article in *Revue de Métaphysique et de Morale*, Jan. 1920.

⁴ *M. M.*, p. 87.

A concrete instance, one of Bergson's, will make plain the distinction between the two memories.¹ I decide to memorise a poem. I repeat it several times. At each repetition I get a better grasp of the words. Finally, I have it word perfect and it is securely lodged in my mind. When on subsequent occasions I recollect that poem, I recall it as learned on the last time. My imperfect renderings are gone past recall. They are merged in the final memory. This final result is *le souvenir*, the thing remembered. It is the learned lesson, as distinct from the process of learning. It is a more or less stereotyped result of many efforts at memorising. This is the first or voluntary memory. It is voluntary in the first instance. Its distinguishing characteristic is that it is literally embodied. It possesses a bodily mechanism; the mechanism can function almost automatically. The parrot memory is a mechanical memory. In our schooldays we were reprimanded for making too free with the parrot memory; but some use of it is inevitable. If I am suddenly called upon to say College Grace before meat, the less I think of the meaning of the words the better. If I visualise the "founders and benefactors" I am done. I get started, make my mind a blank and the swing of the words carries me through. The ethics of my proceeding are questionable, but I avoid blunders and false quantities by trusting to the bodily mechanism of the voluntary memory.

¹ *M. M.*, p. 75 ff.

Now return to Bergson's instance of the poem. Deeper down, he says, than this voluntary memory with its bodily mechanism, lies another memory. This latter is a spontaneous memory. This records not the net result but the whole process, not the lesson but the learning. It makes its record whether I will or no. It is an automatic register of the whole experience. We can prove its existence and its relative independence of the voluntary memory. By an effort I may be able to think myself back and recall my first or second imperfect repetition of the poem before I knew it by heart. In so doing I am turning back the pages of the second book of memory, the spontaneous memory. This book of memory records its items chronologically. All events are given in their time order. Spontaneous memory is, for Bergson, a running commentary on life. It is an ethereal shadow cast by every gesture of our terrestrial actions. The notion is not easy to grasp. Memory we usually regard as an operation we perform, as a subjective faculty, highly capricious and unaccountable. It seems the rule to forget, the exception to remember. Yet we get sharp reminders that possibly the terms should be reversed. Scenes of childhood, long forgotten, visit the waking or sleeping consciousness of the man, like ghosts. Where have these memories been during that interval of years? May it not be that memory exists in its own right? Bergson argues for the reality of latent memories in their unconscious state.

He says that we have no more reason to suppose that past experience perishes than we have for supposing that material objects cease to be when they cease to be perceived.¹ Some psycho-analysts boldly maintain that we never forget anything. It sounds a paradox: but experiments in hypnotism point to its literal truth.² Most past experiences cease to be useful; therefore for practical purposes they cease to be; we cannot be sure that they have absolutely disappeared and under no circumstances will return. Memory plays queer tricks when "attention to life" is relaxed. In dreams, in old age, in overwhelming danger, particularly, it would seem, in drowning, past experience comes back, like a reversed cinema film. These abnormalities confirm Bergson's view that mind is essentially memory, and that consciousness is a Censor, repressing useless memories. On this theory spontaneous memory *re*-presents the past. It is the raw material of concrete memory. It is the man's cumulative experience floating free from the business of life.

These two memories co-operate in concrete perception. Before studying them in their combination, we must see them in their separateness. When, for instance, we are repeating a poem, we often can tell when we have made a mistake.³ We say

¹ *M. M.*, p. 153.

² Cf. Brown, *Psychology and Psychotherapy*, p. 185.

³ *M. M.*, pp. 84, 85.

to ourselves, "That's not it." "That" is the deliverance of the voluntary memory, articulated by the mechanism of speech. We contrast "that" with "it." What is this "it"? It is the spontaneous memory. It is a fugitive phantom of past experience, haunting our sub-consciousness. Again, take two types of concrete memory.¹ Contrast the child's photographic memory with the memory of the educated man. The child's memory is far more retentive than the man's. Its records are often chronologically exact, even in details. The man's memory is far more serviceable, because it is discriminating; education has taught the man what to store and what to throw away; a true education is as much an education in obliviscence as in mnemonic. Both types of pure memory enter into each concrete memory. The proportions differ. The child's memory is predominatingly spontaneous. The man has learned to let voluntary memory in large measure take the place of spontaneous memory and has formed the bodily mechanism in which the voluntary memory perpetuates itself. Consequently he forms useful memory habits.

Now, says Bergson, there is a world of difference between the voluntary or habit memory, whose essence is repetition, and the spontaneous memory, whose items are events in my life, bearing a date and filling a place in the time sequence and therefore incapable of repetition.² For the needs of bare life,

¹ Cf. *M. M.*, p. 167.

² *Ibid.*, p. 80.

habit memory would be sufficient; it brings about adaptation to environment. For an enlightened conduct of life, representation of past experience is required. This representation is just what spontaneous memory supplies. Habit memory is empty of representation. Spontaneous memory, if unchecked, would overload our consciousness with pictures of our past. The urge of spontaneous memory restrained by habit memory and its bodily mechanisms produces the concrete memory efficient for action.

We have studied Bergson's theory in sections; we must now attempt a conspect. Can we piece the parts together? Pure perception, spontaneous memory, voluntary memory, how do they combine in the concrete act of perception? Does the theory throw any light upon the familiar facts of sight, hearing, smell, touch and taste? Let us take a concrete case of visual perception. I turn my eyes to the clock yonder. The dial connects with the retina. Electrons are liberated; the disturbance of the optic nerve is transmitted to the cerebrum and thence redirected to other parts of the body. Actions or nascent actions are set up. There is the physical substrate of vision, the pure perception. Now all perception is to some extent recognition. I could not recognise this visual object as a clock, much less tell the time by it, without the kind offices of a host of mind elements. Judgments of shape, size, distance, position, purpose are ingre-

dients in the apparently simple act of seeing a clock. We are not conscious of them, any more than we are conscious of the blending of the two retinal images into one. But they are as really present as is the binocular transformation. These mind elements are legacies from my past. They are memories. I make no conscious effort of recall. They come. They are realities. I have had to learn to make these judgments. Their origin could be dated, and they are here and now factors in my present experience. They are memories in action, interpreting the quiver of the optic nerve. Now why do these particular memories become actualised and not others? Out of the whole mass of our memories which *ex hypothesi* do not perish, why are some selected for reincarnation? On what principle is the selection made and by what mechanism? It is quite possible that I should turn my eyes to the clock without noticing it consciously as a clock. The same physical process would take place. But if I relax attention to the business of life and indulge in day-dreams, the same quiver of the optic nerve might call up recollections of my first lesson in reading the nursery clock, or, again, of wearisome examination papers answered in this hall. It seems as if the same physical stimulus can open any page of the book of memory. Yet the pages are not turned at random. Bergson's account of the matter is that our whole past is at hand in the form of spontaneous memory, exerting a silent pressure on our present. The selection of

items is made on the principle of appropriateness to the present situation, and it is made by the inhibiting action of the voluntary memory. The voluntary memory has set up, and is constantly setting up, bodily mechanisms. Under its influence the body adopts habitual attitudes, which facilitate the embodiment of some memories and reject others. Thus happenings to the nervous system are new chances of life for old memories.

The effect, positive and negative, of bodily attitude upon mental representation cannot be doubted. If an officer has to interview an angry private, he calls him to "attention" before opening a discussion. The physical attitude will usually alter the current of the man's thought. It is hard to be insubordinate when you are standing with "heels together and arms at the side, chin in and back of the neck touching the collar." Bergson gives several illustrations of the same fact. He points out that an aphasiac who cannot find a word will think of the corresponding action.¹ Again, when we are listening to any one speaking, we do not passively await the impressions of the word sound. We adopt an attitude and vary the attitude with the speaker's tone and turn of thought. From these facts Bergson concludes that there is a recognition of action devoid of representation.² Under the influence of repeated perceptions, the machinery of habit is built up in the body. The body learns

¹ *M. M.*, p. 128.

² *Ibid.*, p. 93.

to recognise automatically and instantaneously, before any representation intervenes. In this automatic recognition consists the feeling of familiarity, which is the consciousness of nascent actions.

I have sketched Bergson's account of the process of perceiving. Now we must face the inevitable question, Has he explained anything? He has dealt shrewd blows at materialism and at parallelism. Has he given us anything to take their place? Will human experience fit into this artificial framework of pure and concrete perception, of spontaneous and voluntary memory? Is there not still a great gulf between the ego and the things I see, hear and touch. In a word, does the Bergsonian theory solve the problem of mind and body?

No reader of *Matière et Mémoire* can fail to observe that its author combines in an unusual degree scientific knowledge and metaphysical insight. In trying to envisage the problem from the standpoint of science and of philosophy, he has certainly contributed to its solution. Perhaps a theory that will answer all questions to which our experience of mind and body gives rise is unattainable. However that may be, I think that we may claim for the Bergsonian theory that it gives what it undertakes to give. Bergson's main thesis is threefold:¹ (1) to show that mind is an independent reality; (2) to throw light upon the nature of what we call mind; (3) to throw light upon the possibility of the inter-

¹ *M. M.*, pp. 68, 69.

action of mind and matter. With the first two items of this thesis we have dealt already at some length. The question of interaction remains for consideration. We seek a middle term between memory, essentially psychic, and the sensori-motor process, essentially physical. Bergson finds it in the motor schema. This, for him, is the point of interaction. Without this "adjuvant moteur"¹ memories could not be actualised. It is the "habit memory" which enables a mental attitude to be inserted into a bodily attitude.² The action of the past is preserved in the form of motor "dispositifs" within the body, as well as in the form of memories independent of the body. The actual formation of these "dispositifs" is due to the nature of the nervous system.³ The stimulus received by the sense organ is transmitted to the cerebrum and finds an outlet in muscular and nervous movements. Now the actual path taken by the nervous current is certainly not fortuitous. Bergson maintains that it is not mechanically decided. The nerve terminals are very fine and fern-like. Many paths from periphery to brain centre are open to the one nervous current. There is thus occasion for a rudimentary choice in the neurones themselves. Habit naturally supervenes upon this choice. The nervous current tends to take the line of least resistance; that is, to follow its accustomed path.

¹ *M. M.*, p. 127.

² *Ibid.*, p. 74.

³ *Cf. Ibid.*, pp. 4, 16, 17, 20, 81, 95.

Of course this account of the nervous process is little more than a suggestion as to how the mechanisms in question might be built up. When we know more about the nervous system than we do at present, and when the secret of the transference of energy is disclosed, perhaps a fuller explanation of these mechanisms will be reached. However they are formed, no one, I fancy, can deny their existence. The one on which Bergson lays most stress is the mechanism connecting hearing and speech.¹ The heard word tends to prolong itself into speech. When we hear, we want to speak. The auditory perception sets up the nascent actions of speech. An audience is usually forbearing enough to inhibit these nascent actions, but the impulse is there. Bergson calls attention to the complexity of the mechanism of speech.² There is the movement of lips and tongue for articulation, of the larynx for phonation, and of the vocal chords for expiration. Complex though it is, this speech mechanism is co-ordinated with the nervous current coming from the ear viâ the auditory nerve. Here then is a set of mechanisms functioning as one. I can combine, control and set them in motion by an act of will in voluntary speech : but the same set can also operate independently of the will. An auditory perception can produce the same outward effect as an act of will does. When one thinks that the whole nervous system is a complex of similar mechanisms and that

¹ *M. M.*, pp. 114-115.

² *Ibid.*, p. 117.

each of them acts (*jouer* is Bergson's word) our past without representing it, the difficulty in conceiving interaction is considerably lessened. Our vague consciousness of the nascent action of these mechanisms is the motor schema, which plays the part of intermediary between pure memory and pure perception.¹ For instance, the co-ordination of the motor tendencies of the speech muscles with auditory impressions supplies us with the motor schema of the heard word. This schema enables us to understand a foreign tongue. The crude sound mass is broken up and articulated by it and so disposed that memory and meaning can intervene.

To put the matter broadly, Bergson believes that the mind, in its pure state, is representative memory unattached to matter; he believes that the living body remembers without representing what it remembers, and that mind embodies itself in perception, just because in the state of the body at any moment the two memories meet and fuse. An introspective cricketer would, I think, agree that the body has a memory, and that skill in all branches of the game is due largely to the education of this organic memory. If this hypothesis of the organic or motor memory be sound, it supplies an empirical basis for the union of psychic memory and the material process of pure perception.

For a fuller solution of the problem Bergson takes us to the lofty watch-tower of metaphysic. He

¹ *M. M.*, pp. 114-115.

tells us that from the lower standpoint of utilitarian thought we do and must see mind and body as two ultimate principles; but that from the standpoint of intuition, the two principles tend to merge in one process.¹ I can here merely sketch the closely reasoned argument of the concluding chapter of *Matière et Mémoire*. In brief it is this. If we follow uncritically the natural bent of intelligence, we are driven to the conclusion that mind is mind and body is body and the twain shall never meet. Yet they do meet. We experience their junction every minute of the day. Intelligence then belies experience. Intelligence is not to blame, if it cannot help itself. It needs correction, and philosophy's duty is to supply this correction. The problem of mind and body seems insoluble to us because the practical needs of life have compelled thought to make a clean cut between the extended and the unextended, and another clean cut between quality and quantity.² Intuition, Bergson thinks, can dispel this double antithesis and can show that the contrasted terms shade off into one another. The space which in the theory of pure perception is so sharply contrasted with the non-spatial is the abstract space of geometry. It is not a reality; it is a tendency of real matter idealised. In point of fact, since our perception forms part of the things, the things participate in the nature of our perception. So the question as to how absolutely material things can

¹ *M. M.*, p. 249.

² *Ibid.*, p. 199.

give rise to absolutely immaterial thought is a "question mal posée." It ought not to be asked, so should not be answered. Or, to put the same thing positively, the idea of extension (the process of becoming extended) shows us the possibility of a *rapprochement* between the extended and the unextended.¹

He deals similarly with the antithesis between quality and quantity.² Quality and quantity are convenient pigeon-holes; they afford a basis for a rough classification. Colour as a sensation differs vastly from a number of electrons; and for practical purposes we do right to classify the former as a quality and the latter as a quantum. But when we have separated them and lodged them in their respective pigeon-holes, we have no right to elevate the transaction into a theoretical difficulty. We have no right to turn round and say, "If quality and quantity differ *toto cælo*, how on earth do they meet?" In point of fact, says Bergson, there is no absolute quality nor absolute quantity. Both categories are conceptual ideals. All qualities have quantitative aspects; on certain sides they are measurable. A pure quantum is an entity whose heterogeneity or quality is for practical purposes negligible. The psychologist says that the colour of an object is a quality irreducible to another quality; the scientist says that the colour can be resolved into ethereal vibrations, numerable and homogeneous.

¹ *M. M.*, p. 200.

² *Ibid.*, p. 201.

Both are right; each is emphasising divergent tendencies of the object in relation to the subject. Relax the tension of the heterogeneous and by imperceptible degrees it passes into the homogeneous. Bergson suggests that the conception of tension lessens the interval between quality and quantity, just as extension mediates between the extended and the unextended.¹

Bergson would have us think things in terms of real movement and mind in terms of real time. He remarks that a sensation of red light, the slowest of the spectrum, occupying one second by the clock, contains according to a scientific estimate 400 trillions of successive vibrations; that it would take us 25,000 years to see red once, if we experienced each of these vibrations separately.² Perception contracts quantity then, and makes it quality. "To perceive is to immobilise." He brings time and movement together in the following definition of perception—"to perceive is to condense enormous periods of an infinitely diluted existence into more differentiated moments of a more intense life."³ Perception is a union of mind and body. If we halt at the distinction of pure perception and pure memory, the union baffles us. But mind is not always on its highest level nor matter on its lowest.⁴ Mind is a movement towards spirit, and body a movement in the opposite direction. The two have

¹ *M. M.*, p. 201.

² *Ibid.*, pp. 231-232.

³ *Ibid.*, p. 229.

⁴ *E. C.*, p. 219.

movement in common. Real movement takes time. To conceive the problem of mind and body in terms of movement is the same as to conceive it in terms of time. Memory is a movement of spirit in the direction of self-materialisation. Matter ideally has no memory; for its parts are external to one another and simultaneous. The living body combines the two tendencies, the tendency to disintegrate time into instants and the tendency to reintegrate it into psychic experience. For the intuitionist, then, the interaction of mind and body is the interaction of different rhythms of duration.

In conclusion, may I briefly indicate the general bearing of the Bergsonian theory of perception upon life's larger issues? It places cerebration and the nervous processes connected with cerebration. In so doing it gives full scope and full value to the work of physiology and the kindred sciences. At the same time it allows independence and full reality to the subject matter of psychology. Bergson proves, so it seems to me, the case against materialism. Mind is not brain; nor is memory stored in protoplasm or in brain cells. Parallelism too is refuted. He shows that our mind life is wider than our brain life. He thinks that if we could see the brain functioning and could read the meaning of every molecular movement in the grey matter, we should see cerebration accompanying all thought, but not causing thought nor equivalent to thought, but rather translating into action a certain group of

our memories.¹ Mind then depends on the body for its power of acting into space, but not for its being. Thought thinks in its own right. Cerebration may prove not to be a permanent *sine qua non* of personal experience. The Bergsonian theory thus supports idealism in making mind the predominant partner in our psycho-physical being. It is realist too. For according to it real persons really perceive a real world.

¹ *M. M.*, Avant-propos, p. viii.

CHAPTER IV

THEORY OF EVOLUTION

BERGSON'S *magnum opus*, *L'Évolution Créatrice*, was published in 1907. In it we find a repetition of some of the principles enunciated in his earlier writings; but the work as a whole marks a decided advance upon his previous thought. In the maturity of his powers he is not content to confine himself to purely human problems. His horizon is enlarged, and he attempts to apply to the macrocosm of life the intuitions gained in his study of the microcosm of human existence.

Indeed, no one with any breadth of view can fail to be interested in the subject of evolution. It is an arresting spectacle, this drama of terrestrial life, of which we are spectators and in which we play a part. There is so much to wonder at. The differences between species who share one type of life, the structural connection of the human body with beast and bird and fish and reptile, the loneliness of the human intellect, the permanence of type, the variations from type, the mutations, the order and disorder, the purpose and the chaos, all these considerations impel us to seek some clue to the maze of facts. Departmental studies seem to

lead to no big conclusions. There is need of a philosophy that can survey the whole field and generalise, tell us, that is, what evolution really is, how it acts and whither it leads.

An attempt of this heroic type Bergson has made. He has tried to see life steadily and see it whole. He presents us with a picture of an evolution, whose secret is creative impulse, whose processes must be read in the light of the process that we feel within us, whose goal we cannot know, whose tendency we can infer. These conclusions are reached by the method of intuition. Bergson does not claim that they are necessities of thought, though he uses all the armoury of the intellect to vindicate them from objections. At the same time they are more than impressions left on an artistic mind by a study of life. Bergson's method is not impressionism. In *L'Évolution Créatrice* we find many pages of close reasoning, of discursive analysis of rival theories, with monographs on isolated scientific problems. At first sight the book seems a sheer appeal of intellect to intellect. Yet, if we look more closely, we find, I think, one primary intuition that inspires the whole work. It is given in the opening paragraph of the book—" *Je change sans cesse.*" The philosopher is conscious of his personal life as an evolution. Introspection enables him to study the nature of this incessant inward change. The intuitions thus formed he proceeds to project upon a wider canvas. "When we replace," he says,

"our being in our will and our will itself in the impulsion which it prolongs, we understand, we feel, that reality is a perpetual growth, a creation endlessly pursued." ¹

This projection of the principles governing internal experience into the field of external experience is not so arbitrary as at first sight it seems. It is based upon what Darwin has taught us to do. Darwin has taught us to link man, body and mind with the rest of reality. The appeal of Darwinism is an appeal to a deep-seated intuitive sympathy with all forms of life. Man abandons his splendid isolation; he surrenders his pride of place; he steps down from his pedestal; he abdicates his sovereignty by divine right and becomes first citizen in the republic of life. Vital sympathy is the dynamic of Bergson's argument. He takes seriously the contention that all forms of life spring from one source and possess common features.² He thinks that the central theme of life is present in all its variations.³ He regards human consciousness as a higher transposition of the theme. Accordingly, in his eyes it is not mere conceit that inclines us to see the cosmic process mirrored in our self-consciousness. Since the psychic *élan* possesses all the characteristics of the vital *élan*, we may legitimately use our intuition of personal existence to interpret external process.

What then is the nature of personal existence? Intellect gives one answer, intuition a different

¹ *E. C.*, p. 260.

² *Ibid.*, pp. 181-182.

³ *Ibid.*, p. 186.

answer.¹ Intellect says that personal existence is in its lowest terms a changeless ego and a succession of states. Intellect starts by dividing the continuum of experience into a series of instants, and then is forced to connect them by the logical fiction of a static ego. This conception of existence is very useful, indeed for practical purposes it is indispensable. Law and the conduct of life depend upon it. The student knows that his Senior Freshman self is not the same as his Junior Freshman self, but he recognises that the Junior Dean and Junior Bursar and other College authorities have to act as if there were an unchangeable entity corresponding to his unchanged name. It is the philosopher's business to expose the fiction of the ego. He sees the artificiality of intellect's procedure. To analyse experience into psychic states and an ego may be an instructive anatomy of the corpse of experience, but it does not give us the truth of personal existence.

Now our intuition of personal existence is very different from the conceptual representation by which intellect commonly symbolises it. It is hard to get a clear intuition and harder still to convey it. It is hard to put into words what personal existence feels like. One can only attempt it by a copious use of metaphor. The most appropriate metaphors are word pictures of fluids and moving things. They represent the continuity and the incessant change of

¹ E. C., pp. 1-8.

experience. When one tries to intuit the essence of personal being, one feels as if one were attempting to stay a stream; the ego seems an arrest of a current of being, the hanging wave of a flowing tide. There is a sense of pressure and of incompleteness. My ego is just my present, and my present is an urging past brought up sharp against a blank future. My present is my past on tip-toe. The possibilities of the future and the pressure of the past, these are the two outstanding features of personal consciousness of the present. Bergson's most striking illustration is that of the rolling snowball.¹ He pictures our being as always moving and accumulating experience as it moves. The movement, he thinks, is not random, nor is it planned. It is an élan or thrust. The man is the continuous stream of imperishable psychic experience, whose impulse is a *vis a tergo*, setting a direction but not a goal. The impulse of the past is complex. It is made up of a multiplicity of tendencies, many of which can never be realised. Personal life at any moment seems a group of possibilities, few of which come to anything. The evolution of the individual consists largely in repressing tendencies; culture is mostly disbudding. At the same time the élan is not aimless movement, idle effort or blind will. We cannot say beforehand that it is an impulse to do this or that. A biography cannot be written in advance. But when we turn back the pages of our life-story, we can see that the

¹ E. C., p. 2.

new has come into existence, that the psychic élan has brought into being new character and new mental powers.¹ Accordingly Bergson intuits the essence of personal existence as an incessant tendency to self-creation.² This intuition of personal existence makes its presence felt in Bergson's treatment of every department of the evolutionary problem. The psychic élan gives him the key to the interpretation of the vital élan.

Now the problem of evolution may mean either the problem of species or the problem of the individual organism. The natural order of investigation, which Bergson follows, is to take first the microcosm of life, and then to study the problems to which the grouping of many microcosms into a macrocosm give rise. Accordingly we will proceed to discuss Bergson's philosophy of the organism. The organism is, for Bergson, a fact *sui generis*. It is something to be accepted as part of the given. He refuses, that is, to regard it as simply an exception to physical law, as a sort of after-thought of the Creator. The living body stands amid the universal interaction,³ and in so far as it is extended it is subject to the laws of chemistry and physics. It stands, however, in a position of privilege. It is a closed system, not an artificially closed system like those postulated by science or made by human perception, but closed by Nature. Consequently we cannot model organic law upon physical law.⁴ Bergson, in fact, lays down

¹ *E. C.*, p. 260. ² *Ibid.*, p. 7. ³ *Ibid.*, p. 13. ⁴ *Ibid.*, p. 17.

that, strictly speaking, there is no universal biological law. The laws of motion and conservation have an heuristic value in biology; they set problems to the biologist; they call attention to the differentiae of vital process; they apply to the waste products of life; they do not, he submits, govern life. We might as well expect to be able to manufacture a living body as hope that the laws of physics and chemistry will provide the key to an understanding of the inner workings of life. If synthetic life were actually achieved, it would disprove, no doubt, this contention. But Bergson evidently regards the contingency as very remote and for practical purposes negligible.¹ Even if the laboratory could turn out a rudimentary organism able to exist, it would be still far from being able to manufacture a complex organism able to pass through a cycle of transformations and to perpetuate its élan. A successful experiment in synthetic life would only prove the possibility of making a life-like copy of the living. Nature herself does that. Bergson recognises that organic process has much in common with mechanical process, and he mentions several instances of "the imitation of the living by the inorganic."²

Now the privileged position of the organism in the scheme of things consists essentially, on the Bergsonian theory, in the fact that the organism endures. Duration is, for Bergson, the ultimate reality. Duration is not spatialised time; it is not passive

¹ *E. C.*, p. 39.

² *Ibid.*, p. 35.

continuance while something else continues; it is not a succession of instantaneous existences. It is active, productive eternity; it is the interpenetration of past and present events, a cumulative carrying-forward of past into future. This is not simply guesswork about reality; for we experience duration; our minds experience it as will and memory, and (this is the point that concerns us here) our bodies experience it as life. Life is a phase of duration.

"L'organisme qui vit est chose qui dure."¹ Let us examine this fundamental principle of Bergson's theory. In what sense can we attribute duration to the organism while denying it to the inorganic? In this sense. The organism, as such, has a biography. Every living thing has a life-story. Its past influences its present and carries forward into its future. Time is something real to the organism, does something real in it. Time is vital, and the vital is of the nature of time. Vital process has an irreversible direction. The same cannot be said of the inorganic. Physical things change; they do not endure. Physical change is reversible; it has no direction. Water can be resolved into hydrogen and oxygen, and then the gases can be recombined into the fluid. In the language of the parade ground, it is a case of "as you were before you wasn't." Time makes no difference to the material as such. We think of matter as enduring, because it remains unaltered

¹ E. C., p. 16.

relatively to our purposes and to our senses. Matter, as the physicist views it, is an instantaneous existence; the whole of it is given at any moment. Time has no surprises for it, adds nothing, subtracts nothing, brings no progress nor retrogression. We should note that the "matter" of physical theory is, for Bergson, an ideal rather than an actuality.¹ The material universe as a *whole* endures;² but material bodies are abstractions from the whole; they are artificial constructions made by our perceptive faculty, and therefore are momentary. The mountain mass is as indifferent to the lapse of time as it is to the clouds that cross its peak. We project into our idea of the mountain something of our own duration, something of the human history it has watched, something of the history of the pines on its slopes, and so we can speak of the "everlasting" mountain. But in itself, in its crude materiality, Etna has no history; it might be annihilated one instant and recreated the next; the moments of its existence have no continuity. Its elements may change; but it knows no metabolism, no youth, no old age, no death.

The organism is in this respect sharply marked off from the inorganic. The living thing has a history of its own. It goes through a cycle of events, which cannot be reversed or repeated. Its history is immanent. It is not merely that an onlooker constructs a history for the organism. A constructed

¹ *E. C.*, p. 11.

² *Ibid.*, p. 12.

history has as much or as little relation to the events as an obituary notice has to the career of a great man. Even if the organism found no historian, its life is its history. Therefore it endures. We must go further, and affirm memory of the organism.¹ Bergson uses the term "memory" in a broad sense. Conscious recollection is only one instance of it. We cannot affirm or deny consciousness in the case of the organism; but memory we must ascribe to it. Memory is almost a synonym for duration: both words express the power of concentrating happenings. What is organic in the organism is objective memory. It is the thrust of its past into its present. Organic memory is far-reaching. It goes back behind the lifetime of the individual and spans æons. The present of every living thing concentrates the past of its kind. Evolution is pre-natal.² Embryogeny confirms this contention. Physical and psychic characters survive long after their utility has ceased. So much so that the present of the organism is almost a condensation of the past of the species. In technical language, the ontogenesis of the organism is an epitome of its phylogenesis. In simpler terms, life remembers; the past of life does not perish, it is embalmed in race memory.

The consequences of attributing duration to the organism are far-reaching. If the organism endures, then it is a phase of the cosmic conation; life, in

¹ *E. C.*, pp. 20-21.

² *Ibid.*, p. 20.

fact, is endowed with a psychic character.¹ Bergson's theory seeks to establish against both materialism and vitalism that life is akin to mind. It is inconceivable that any aggregate of completely despiritualised molecules could carry and transmit that complex of stresses which is a man's inherited character. The doctrine of duration underlines the difference between living protoplasm and an aggregate of molecules. On the other hand, the same doctrine forbids us to equate the *élan* with the life force of the older and modern vitalists. A *vis viva* is a force peculiar to the organic world, possessing nothing in common with mind except the negative attribute of non-materiality. Such a *tertium quid* is unnecessary and it finds no place in the Bergsonian theory. Bergson's chief objections to vitalism are that it postulates two things not found in Nature, a purely internal finality and the absolute individuality of the organism.² Bergson's *élan* is not a *vis viva* because his organism is not a monad. The quest of the individuum of life is vital atomism, foredoomed, Bergson thinks, to failure. What then becomes of the individuality of the organism? It is a strong and characteristic tendency and nothing more, perpetual endeavour but no achievement.³ The *élan* is finite. Its tendency to individualise is counteracted by its tendency to reproduce and continue. So the organism never achieves being-for-self, though it persistently tends that way.

¹ E. C., p. 29.² *Ibid.*, pp. 45-46.³ *Ibid.*, pp. 13-16.

To put the same idea in another form. Individuality is relative. A tree has individuality compared with the soil in which it is rooted. Yet compare that tree with a vertebrate, and we seem to be comparing a composite with an individual. Human personality is individual in a higher sense than anything else we know. Man's mind pursues a monad-like existence; yet even in that sphere individuality is only partial. The individual mind only finds itself in the common mind.¹

Bergson deals with other characteristics of the organism besides individuality. I may instance motion and torpor, regeneration and degeneration, anabolism and catabolism, freedom and automatism. He shows that each characteristic is, as it were, in unstable equilibrium;² it represents a concordat between divergent tendencies, a *modus vivendi* achieved by a policy of give and take. The organism is, for Bergson, a theatre of conflicting tendencies. It is a semi-psychic *multum in parvo*. To unravel the latent tendencies is the business of organic theory. For the compresence of conflicting tendencies in the organism is the *raison d'être* of the evolution of the organism; it explains the cycle of transformations which compose the life-history of the living body; it gives us a clue to what in the wider field we call the origin of species. The *élan vital* is pregnant with possibilities; it is great with events. Therefore there are chapters in the life-story of each

¹ E. C., p. 281.

² *Ibid.*, p. 107.

individual organism as well as in Nature's universal book of the evolution of life.

So far we have treated the organism as if it were an isolated unit of life, in order to make explicit the common characteristics of all organisms. Such an analysis can be only provisional; for it is bound to ignore for the time being the primary and basic fact of the situation, namely, the continuity of all life. For Bergson "life in general" is no abstraction,¹ but rather the reality from which all forms of life have sprung and to which they even in their diversity still testify. According to his view the life-continuum is logically and chronologically the *prius*. No full comprehension of life can be attained by isolating fragments of this continuum. To isolate an organism from its species, or one species from the genus of life, is like isolating an event in history. Events and organisms rebel against such treatment. At the same time a study of the unit of life has a didactic and an heuristic value. For Bergson wishes to explain the history of the whole family of terrestrial life as an *élan*, and if each member of that family possesses a similarly featured *élan*, that fact supports the theory of the universal *élan*.

Accordingly Bergson invites our attention to that pageant of living forms that we vaguely call "evolution." Here we find myriads of contemporary organisms, each pursuing a separate course, yet standing one to other in relations of dependence and similarity.

¹ E. C., p. 28.

The researches of three generations of scientists have revealed the complexity and subtlety of these relations. Is this interdependence fortuitous? Are the resemblances between species all mere chance? We cannot think so. Then some sort of theory of evolution we must adopt. Simply to posit an evolution and leave the matter there is no explanation. The fact of evolution is admitted on all hands; the meaning of evolution is the crux. Yet every man thinks he knows what evolution means. Few words in our time have been so soiled by ignoble use. We read of the "evolution" of the aeroplane and of the cinema and of the motor-car. The appeal to first principles involved in the term is being lost to sight. Evolution has become a mere description of a vague belief in a unity of any manifold.

As to evolution in the sphere of terrestrial life, two rival theories disputed the field when Bergson wrote. Mechanism and teleology each tried to assimilate the facts that Darwin brought to light, and the thinking man had to choose between the mechanical theory of evolution and the finalist theory of evolution. Accordingly Bergson introduced his own theory by a criticism of these two. (The neo-Lamarckian theory is considered at length by Bergson, and he speaks of it as a third possible theory of evolution.¹ But as it seems to be mainly a scientific theory to account for the origin of variations, I have not treated it as co-ordinate

¹ *E. C.*, p. 83 ff.

with the better known and wider metaphysical theories of mechanism and finalism.)

Let us take first his criticism of mechanism. If the universe is a machine, its evolution is mechanical. Physical law is supreme, and there is no province outside its sway. An *imperium in imperio* such as life claims is inadmissible. The organism must be a peculiarly delicate mechanical contrivance, whose origin and structure, function and development are entirely material. The origin of species, the perpetuation of some, the disappearance of others, must be due to the play of physical forces. Radical mechanism is in some respects a magnificent ideal. Could we entertain it, it would end much uncertainty and heart-searching. The initial objections to it are, however, very grave. One doubts if it satisfies the requirements of even a working hypothesis. Bergson criticises it along several lines. He offers only one refutation of it, and says that only this one refutation is possible.¹ It is based, as we might expect, upon his controlling conception of duration.

In a mechanical universe "tout est donné."² Past and future are calculable theoretically on the basis of the present situation. That is to say, to a superhuman intelligence all reality is given simultaneously, and the distinctions of past, present and future simply express our inability to take in all at once. In a universe so conceived time would not be wanted. Time would do nothing. Time

¹ E. C., p. 40.

² *Ibid.*, pp. 40-42.

would be nothing. To show that the mechanistic hypothesis reduces time to the position of a lay-figure in the universe, Bergson adduces quotations from Laplace, Du Bois-Raymond and Huxley.¹ May I reproduce two of these passages? Laplace says, "An intelligence which for a given instant knew all the forces animating nature and the situations of the beings which compose it . . . would embrace in the same formula the movements of the largest bodies and those of the lightest atom; nothing would be uncertain for it, and the future as well as the past would be present to its eyes."

Huxley gives the same idea in a more concrete form. "If the fundamental proposition of evolution is true, namely, that the entire world, animate and inanimate, is the result of the mutual interaction, according to definite laws, of the forces possessed by the molecules of which the primitive nebulosity of the universe was composed, then it is not less certain that the actual world reposed potentially in the cosmic vapour, and that an adequate intelligence, knowing the properties of the molecules of this vapour, would have been able to predict, for instance, the condition of the fauna of Great Britain in 1868. . . ."

These quotations are sufficient to show that the mechanistic theory when pushed to its logical conclusion eliminates time, or, while retaining the name "time," deprives it of any real efficacy. Now, as

¹ E. C., p. 41.

Bergson has argued, the *feri* of the organism is concrete time or duration. Time is its history, its career, its memory. An evolution of an organism or of a species or of the whole family of living things must take time; for it is time. Mechanism *ex hypothesi* is timeless; therefore a mechanical evolution is a contradiction in terms.

I have sketched the argument which in Bergson's opinion constitutes a direct refutation of the mechanical theory. I should mention that some of his subsidiary arguments are formidable indirect refutations. Chief of these is the long and interesting discussion which demolishes the mechanistic explanation of variations, mutations and adaptations.¹ Noteworthy too is his discussion ² of the resemblance between the pecten's eye and the eye of the vertebrate, leading up to the conclusion that the emergence of identical structures along divergent evolutionary lines is inconsistent with the theory of radical mechanism.

Has finalism anything better to offer? Is purpose the key? Should we conceive evolution as the working out of a cosmic plan? To many minds design seems the only alternative to mechanical law. Bergson recognises that finalism is a more flexible creed than mechanism. He says that the rejection of mechanism entails the adoption of some elements of finalism,³ but he denies that radical finalism is adequate as an explanation or true in fact. He

¹ *E. C.*, pp. 59-95.

² *Ibid.*, p. 67 ff.

³ *Ibid.*, p. 43.

admits subjective purpose. We may trace plans in Nature, and, if we wish, may find one big plan throughout Nature. Design is an invaluable heuristic principle. Science confessedly and rightly works on the principle that Nature does nothing idly. When we say that the nervous system is designed for locomotion, we are giving a useful and fairly adequate description of the facts. Bergson himself in several passages uses teleological language.¹ He says, for instance, that man is the *raison d'être* of the entire organisation of life on our planet.² But his term *raison d'être* simply describes the phenomena as they appear to us. He suggests that if there is a plan, it is badly executed.³ An objective preconceived design he denies altogether. Bergson distinguishes between purpose in things made and purpose in things in the making. When things are made, we can trace a plan for them retrospectively, just as the biographer will plan into periods the life he is writing. But for things to be made we can trace no plan, because no plan, Bergson thinks, exists. Design is essentially a human concept. Design postulates a pre-existent model up to which the artist or artisan works.⁴ "Nous naissons artisans."⁵ Design appeals to the artisan in us. It spells manageableness, control and the ability to predict. But, Bergson argues, the course that life has taken, the forms and species it has deposited on its route, could not have been

¹ E. g. E. C., pp. 105, 135.

² *Ibid.*, pp. 201, 288.

³ *Ibid.*, p. 141.

⁴ *Ibid.*, p. 97.

⁵ *Ibid.*, p. 48.

predicted, because life is free and creative. Teleology is wisdom after the event. Design explains life lived, but not life in the living.

When we consider the structure of any organism, we admire the adaptation of each detail of the member to the function of the body; when we take a conspect of the whole field of terrestrial life, we conclude inevitably that the vegetable kingdom subserves the animal kingdom. The dovetailing is so exact. We find therein evidence of design. Quite so, says Bergson, and he attributes the fact to the nature of human intelligence. Man must interpret his experience in terms of design; for the concept of design is characteristic of human intelligence. In other words, design is a product of evolution, not its cause.¹ The intuitionist philosopher strives to transcend utilitarian considerations; he tries to merge himself in the main current of the evolutionary process; in so far as he succeeds in so doing, he is able to distinguish between the current itself and the channel that it cuts.

Bergson's ultimate reason for rejecting finalism is that it is inconsistent with his intuition of duration.² He argues that a consistent finalism plays into the hands of mechanism. If things move according to plan, they move mechanically. In a designed universe men are puppets; freedom and progress are impossible. The more freedom we put into the original selection of the plan or into the first framing

¹ Cf. *E. C.*, p. 56.

² *Ibid.*, p. 42.

of the plan, the more freedom we take away from the process of realising the plan. What we put into the purpose, we take from the purposed. A creative fiat is succeeded by a mechanical process, in which real time is disemployed.

Bergson sets side by side the three conceptions of evolution, the mechanist, the finalist and his own, in the following illustration.¹ Suppose an invisible hand thrust into a mass of iron filings. The hand encounters resistance and is finally brought to a stop. Then an outline of the hand is visible in the mass and calls for explanation. The invisible hand represents the life-force; the iron filings represent the resistant inertia which we call matter; the visible outline, left by the invisible hand, is the position of the evolutionary series at any moment. Different spectators will give different explanations of the outline. The mechanist explains the outline in terms of the physical forces contained in the iron; for him the position of each filing is determined by the action of the neighbouring particles. The finalist sees in the same outline evidence of design; it could not have come by chance, he says; so an intelligence must have arranged the filings according to a preconceived plan. Both explanations are only partial aspects of the truth. The true cause is the thrust of the hand. The outline is a residuum or an interruption of the process, the automatic registration of the progress made by the thrust.

¹ E. C., pp. 102-103.

As this illustration suggests, Bergson's own conception of evolution, or rather intuition of evolving, is expressed in the word "*élan*."¹ The word itself is worth a passing notice. We have no English word for it as yet. Bellow's dictionary gives several translations of it, including the following: *bound, impulse, spirit, life*. Evidently it has a rich connotation to the French mind. It suggests spontaneous movement, continuous, controlled movement, movement of a psychic or semi-psychic character. Bergson, however, is not building a theory upon four letters of the alphabet. The word is only important in so far as it conveys his diagnosis of evolution. Bergson's leading thought is that of "an original *élan* of life, which passes from one generation of germs to the generation following by the intermediary of developed organisms which form the bond of union between the germs. This *élan*, preserving itself along the evolutionary lines amongst which it is shared, is the profound cause of variations, at least of those which are regularly transmitted, which accumulate, which create new species."² From this quotation it will be seen that the *élan* is, for Bergson, something objectively real. It is not simply a descriptive phrase, like, for instance, natural selection. It is a *vis a tergo*, transmitted from germ to germ as really as are hereditary characters. The *élan vital* is that phase of the cosmic conation which operates in the sphere of the

¹ *E. C.*, p. 95 ff. and *passim*.

² *Ibid.*, p. 95.

organic. It is part, no doubt, of a wider movement. We feel it in will action, as well as in heart action, in thinking as in walking. In itself the movement must be regarded as a manifold of interpenetrating potentialities; where the movement meets matter, it meets resistance; there we view it as an *élan*, because it has to overcome the resistance. The *élan vital* is a finger of duration's thrusting hand. Duration is great with events. Spirit is essentially heterogeneous. As time must give birth to events, so the *élan vital* must generate species. The *élan vital* encounters opposition. It is driven to dissociate its latent tendencies.¹ It cannot realise itself in one form or in one body. Its conflicting tendencies must produce such a multilinear evolution as we find on this planet. Man is not ape; but the two species must show resemblances because of their common ancestry in the *élan*. The unity of terrestrial life lies more in the past than in the present. We find unity in the preface of the book of life. Each subsequent chapter introduces us to more variations and to increasing diversity. The presence of identical structures in two species widely remote need not surprise us. For the *élan* has a memory; its separated elements preserve something in common, "just as comrades long separated preserve the same memories of childhood."² Variations must arise, some successes, some failures, because the *élan* is experimental and finite. Life,

¹ E. C., p. 280.

² *Ibid.*, p. 58.

for Bergson, is a vast experiment of spirit, a "trial and error" process on the grand scale.

It is interesting to note the symmetry of the *élan* theory. The *élan* of personal consciousness is, in its essential characteristics, for Bergson, the same *élan* that rules the acorn's growth. Not essentially different is the *élan* manifested in the branching tree of terrestrial life. But symmetry is a slender prop for this weighty theory. How can we know whether Bergson is reading correctly the pulse of life? Has he laid his finger upon the secret of evolution? Symmetry or coherence of concepts cannot guarantee the truth of the theory. The only possible verification lies in a deep and wide experience of life itself. Intellectual experience of life involves a sympathetic study of the details of the life process; and then it is for the student, who has made this study, to say whether the Bergsonian conception of *élan vital* adequately expresses the results of his research.

Bergson himself has undertaken a task of this nature, and in Chapter II of *L'Évolution Créatrice* he presents the results of a minute investigation. This chapter constitutes a verification of his intuition of *élan* by reference to objective facts. The verification would not satisfy the logician or the critical scientist. From the nature of the case it does not aim at compelling assent. But it is an extremely instructive and suggestive study. Bergson does not intend the study as a transcript of the annals of Nature. It is simply an outline of a possible

natural history of evolution, written from the viewpoint of the *élan* theory.¹ It aims at giving a conspect of the main achievements of life upon this planet, with a guess as to the direction of its future developments. Starting from the original embodiment of the life force in "small masses of scarcely differentiated protoplasm,"² Bergson's survey extends to the vegetable kingdom, and thence to the animal kingdom. At all stages he concentrates attention, not on the structure of the life form, but on the tendency, latent in the *élan*, which each form has brought to realisation. He finds everywhere divergence of effort, not convergence.³ Plant life leads to animal life, because the torpor tendency, realised in the fixity of plants, has to be supplemented by the mobility tendency, which is characteristic of animals. There is a similar divergence within the animal series; for the psychic tendencies of the *élan vital* must be realised. So the effort of animal life culminates in two main evolutionary lines, the line of the higher vertebrates leading to human intelligence, and the line of the Hymenoptera, where instinct is perfected.⁴

I cannot conclude without a reference to what is, perhaps, Bergson's most distinctive and most valuable contribution to evolutionary theory, namely, the idea that evolution is a *creative* process. The *élan vital* is a force that makes for novelty. "Toute

¹ *E. C.*, p. 115.

² *Ibid.*, p. 128.

³ *Ibid.*, p. 108.

⁴ *Ibid.*, pp. 145-146.

œuvre humaine qui renferme une part d'invention, tout acte volontaire qui renferme une part de liberté, tout mouvement d'un organisme qui manifeste de la spontanéité, apporte quelque chose de nouveau dans le monde." ¹ Life, liberty, creation, these three are, for Bergson, inseparable. He rebels against the idea of an evolution in a closed system. "Devant l'évolution de la vie, les portes de l'avenir restent grandes ouvertes." ² His whole theory of evolution is a protest against the stifling doctrine that "tout est donné." All is not given; for evolution gives. We can devise a plan and a mechanism for *natura naturata*; but *natura naturans* shatters machinery and supersedes plans.

This philosophy is at once sober and inspiring. It is a philosophy of action and good hope. It is in closest touch with the spirit of the Western world of to-day. One is tempted to view it as registering more than the private opinion of an individual thinker. It may prove to be a creation of the philosophic élan, a product of the progressive elements in the human spirit. It delineates a world in which progress is possible, but not guaranteed, a world in which freedom and responsibility go hand in hand, an unfinished world, a world that invites co-operation, a world worth living in.

¹ *E. C.*, p. 260.

² *Ibid.*, p. 114.

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